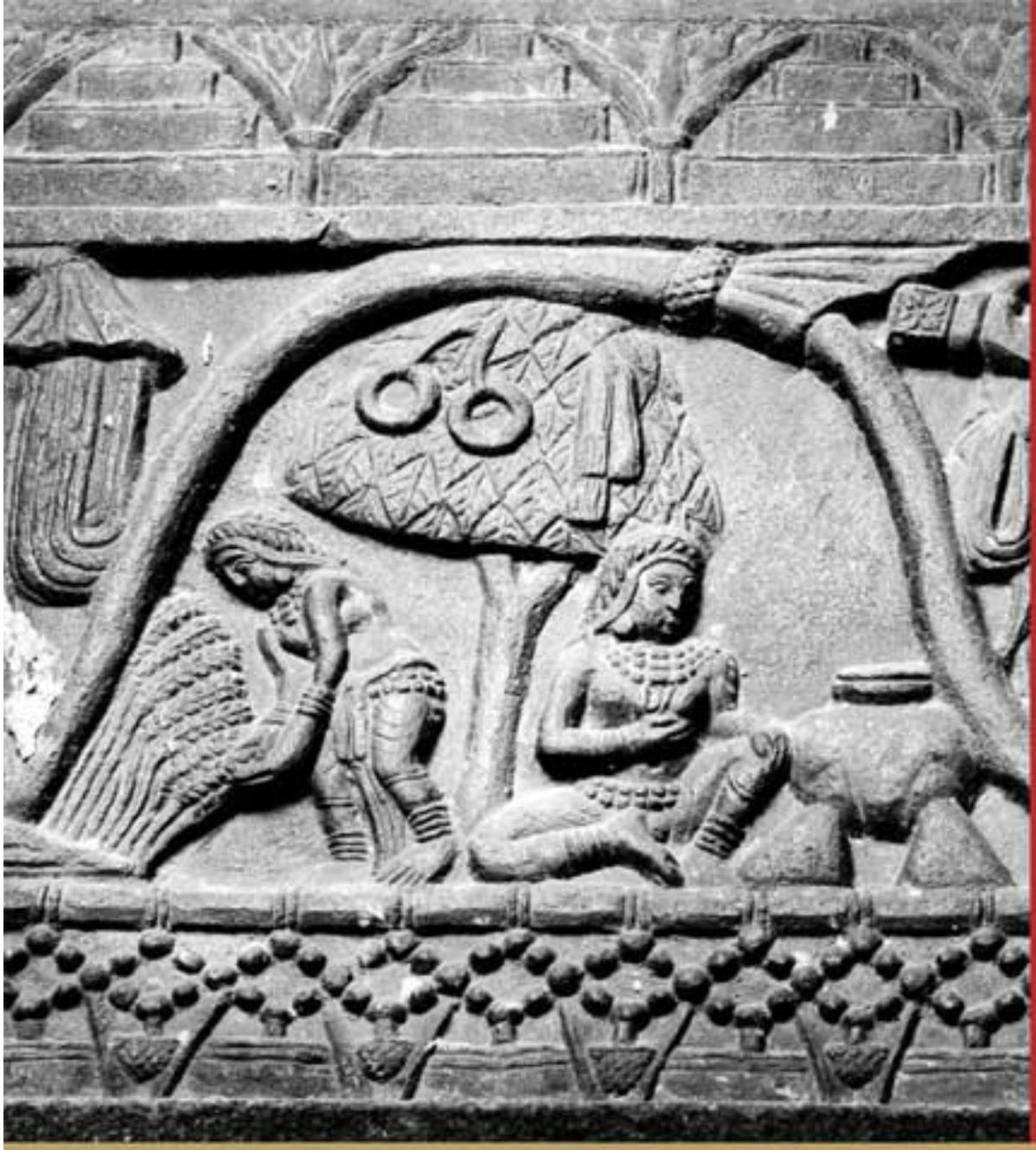

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The Legacy of
CARAKA

M S VALIATHAN

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Caraka on the trail of 'Himalayan plants by Nikolai Roerich

The Legacy of CARAKA

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Universities Press

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To the memory of
my parents

Transliteration chart

k (car) क	kh (khyber) ख	g (go) ग	gh (ghost) घ	ṅg (sing) ङ
c (chart) च	ch (kutch) छ	j (job) ज	jh (jhelum) झ	ñj (signor) ञ
ṭ (table) ट	ṭh (maratha) ठ	ḍ (doll) ड	ḍh (dhola) ढ	ṇ (Pune) ण
t (tete a tete) त	th (thing) थ	d (they) द	dh (dharma) ध	n (sun) न
p (pot) प	ph (Physics) फ	b (bed) ब	bh (bhakti) भ	m (man) म
y (yet) य	r (red) र	l (lot) ल	v (view) व	ṃ (emblem) म्
ś (shell) श	ṣ ष	s (sell) स	h (hard) ह	ḥ
ṛṣi (rshi) ऋ	kṣ (backshore) क्ष	jñ ज्ञ		
u (pull) उ	o (note) ओ	e (bed) ए	a (cut) अ	i (ship) इ
ū (boot) ऊ	au (non) औ	ai (iron) ऐ	ā (father) आ	ī (eat) ई

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Preface

This book had its origin in the Gandhi Memorial Lecture I was privileged to give at the Raman Research Institute, Bangalore. I had heard of Caraka from my school days but to read his Samhitā many years later was to come under the spell of a master physician whose contribution to India's cultural inheritance was profound. I was tempted to retell *Caraka Samhitā* in a format which, I thought, would appeal to the students of āyurveda, medicine and other sciences at the college level and all others interested in the history of science in India. The hesitation I had in an āyurvedic excursion was overcome by the encouragement I received from Sri Raghavan Thirumulpad - a renowned savant of Kerala - who never spared himself in guiding me during my two year journey through Caraka country In the large body of Caraka literature I consulted, the commentary of Cakrapāṇi and translation by Prof PV Sharma were of utmost help to me. However, instead of adhering to the sequence of Sthānas in the original, I have retold the Samhitā through thematically structured chapters which, one hopes, would be easier on modern readers. The retelling has involved some degree of restructuring and condensation but has ensured that whatever is stated can be traced back to the original and that no chapter in the eight Sthānas of the original has been left out. In the introduction, I have commented on some aspects of Caraka's philosophy concepts and practice which could be of interest to the academic community in the present context.

I am grateful to Dr PM Unnikrishnan of the Foundation for Revitalisation of Local Health Traditions, Bangalore for reading my manuscript and not only suggesting emendations and refinements but also assisting in the preparation of a glossary Professor KV Sarma, whose studies on ancient science texts in Sanskrit are models of scholarship, has laid me under an obligation by making an index for this volume. It is a pleasure to acknowledge the assistance of Dr Indira Balachandran of the Arya Vaidya Sala, Kottakkal for checking the botanical names of plants (see *Botanical Names*). The identification and terminology of plants mentioned by Caraka are beset with great difficulties and any errors which persist are entirely mine. I am grateful to Mr Abraham Joy for preparing the illustrations and drawing inspiration for his work from the carvings of the Kuṣāna period when Caraka is believed to have lived. The rich collection of photographs of the sculptures of the Kuṣāna period in the American Institute of Indian Studies, Delhi, provided the material for introducing authenticity into the drawings of Mr Joy. For estimating the number of references to various disorders, I was generously supplied a digitised version of the *Caraka Samhitā* by Prof Yamashita of the Kyoto University. My sincere thanks are due to him and to my daughter and a pathologist, Manna, who carried out the computer search for references. I am indebted to Prof PSVN Sharma of the Kasturba Medical College, Manipal for facilitating my search for modern psychiatric resonance in Caraka's description of insanity. I must also place on record a debt of gratitude to my family who have ungrudgingly stood by me through my busy surgical decades and subsequent digressions into unrelated territories.

I was honoured by the Homi Bhabha Council who awarded me a Senior Fellowship, and would convey my sincere thanks to the Trustees for their support. I am beholden to Dr Ramdas M Pai, President of the Manipal Academy of Higher Education for the facilities given to me for carrying out the study in Manipal. It is a pleasure to extend my sincere thanks to Ms Usha Kamath for preparing the manuscript with great care and admirable efficiency, and Ms. Padmaja Anant of Orient Longman Private Limited for her editorial thoroughness and excellence. If the book succeeds in drawing wider attention to the theme of Caraka's legacy, its pages will have amply rewarded one of my best hopes.

An appreciation

A good book or piece of writing should give reading pleasure and, at the same time, light a spark to trigger new lines of thought. The introduction in the present volume has, in my view, met both these criteria. I am also persuaded that any unbaised reader would share my impression. Having studied and taught *Caraka Samhitā* for many years and practised āyurveda in the traditional style, it has been my experience that various misconceptions have clouded the public understanding of āyurveda. The present study, I believe, would clear many faulty notions and brighten the path for the students of *Caraka Samhitā*. As an old physician reared in the gurukula system, I have no doubt that Dr Valiathan owes his understanding of āyurveda to considerable diligence.

Authoritative texts of āyurveda, in general, have laid greater emphasis on the practical side of medicine. *Caraka Samhitā*, on the other hand, has given a philosophical slant to medicine and sought to evaluate even therapeutic procedures in philosophical terms. This is precisely why a study of *Caraka Samhitā* is indispensable to grasping the true significance of āyurveda which is a science rooted in philosophical soil. Addressed to the modern reader, this book represents a novel and admirable attempt to present Caraka's teaching faithfully, unburdened by explanation or interpretation. To accomplish this task, Dr Valiathan has employed the combined resources of a scholarly background, familiarity with Sanskrit, intensive training in science and modern medicine and an inquisitive mind. Free from preconceived ideas, he has reached out to the original text and not stopped at the secondary level of books and commentaries on Caraka. The direct style of *Caraka Samhitā* has always had a special appeal for serious students.

I hope this novel presentation of the *Caraka Samhitā* will also be made available in a suitably priced edition for the large and growing community of students of our āyurvedic colleges who would undoubtedly benefit from its study.

Raghavan Thirumulpad
Chalakudy, Kerala
(*Translated from Malayalam by the author*)

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I *Caraka and his Legacy*

HISTORICAL CARAKA

Caraka is one of India's immortals in the line of Pāṇini and Kālidāsa. Like stars in the sky they shine; their origins mystify generations. The scholarly dates assigned to Caraka range from second century BC or earlier, to first century AD when the Kusāna empire flourished in north India. Attempts have been made to identify him with Patanjali who composed the *Mahābhā* ṣya in the second century BC while other studies have looked upon him as the physician-companion of Kaniṣka. Yet another school regarded him as a member of an itinerant clan which propagated a rescension of the *Atharva Veda* called *Cāraṇa Vidyā*. From the internal evidence in the *Samhitā*, he seems to have lived in northwest India in the post-Buddhist period and adored the Himālayas. The stream of commentaries and translations of the *Caraka Samhitā* which began after Dṛdhabala's revision of the text in the fourth ceimiry AD has shown no signs of abating even in the twenty-first century What Caraka wrote continues to interest students and teachers of āyurveda, practising physicians, pharmacologists, philosophers, historians of science and even patent lawyers! *Caraka Samhitā* was translated into Tibetan and later into Arabic under the Caliphate. A Caraka club was 'conceived by an Irishman, gestated by a Puritan, delivered by a Yankee, and baptized, or better still, named by a Jew' in New York in 1898. As late as the twenty-first century, learned treatises on Caraka have appeared in Europe and a digitised version in Japan. No more needs to be said to prove that Caraka, the physician, transcends the historical Caraka in significance and relevance.

PHILOSOPHICAL MOORINGS

Caraka lived at a time when intellectual life in India was in ferment. The six systems of Indian philosophy - sānkhya, nyāya, vaiśeṣika, mīmāmsa, yoga and vedānta - which acknowledged the authority of Vedas were in varying stages of development and differentiation and found themselves in conflict with Buddhism and Jainism which questioned vedic authority. Not since the early Upaniṣads had India witnessed debates and reasoning of such vigour, subtlety and brilliance. Milindapanha, *Sānkhya Kārika* of Īśvarakṛṣṇa and *Yogasūtra* of Patanjali, among many others, would bear out such a claim. It was a climate where ideas clashed, systems were redefined and the old gave place to the new. Suffering being a fundamental attribute of the human condition, Caraka recognised that his system of medicine had to be more than a tantra or a manual of medicine, of which many were in existence. By definition, a system of medicine had to be built on philosophical foundations which would resist change while the superstructure would wear and change over time. Living in a charged atmosphere, Caraka chose the stones for the foundation from different philosophical quarries and shaped them to suit the plan of his medical edifice. This was not a one-way process because he contributed in turn to the development of philosophical ideas. Das Gupta pointed out that Caraka's views on the evolution of the living being from avyakta, identification of rajas and tamas with the

aberrant state of mind and sattva with the good, represented the earliest systematic doctrine of sānkhya.[1] According to him, Caraka's extensive treatment of logical categories in relation to āyurvedic debate antedated the Nyāya Sūtras, which were codified later. He believed that Caraka took the logical portion of the *Samhitā* from earlier non-medical literature and grafted them into his work.[2] Caraka's selective approach to vaiśesika gunas is discussed in chapter 1. Nowhere does Caraka appear as a passive borrower of ideas, and in this case whatever was borrowed, underwent a transformation in his mint.

Caraka was not averse to accepting ideas from Buddhist philosophy despite its denial of vedic authority. The concept of the momentary nature of sense perception and the permanent relief from suffering by giving up covetousness appealed to his catholic mind. He saw no conflict between his adherence to vedic rituals and gods and an eclectic approach to philosophy. Philosophical winds blew through his mind but never lifted him off his feet from the bedrock of service to fellow beings.

MEDICAL SCIENCE

To paraphrase Caraka, medical knowledge always existed in folklore, local health traditions, verbal testimony and many other sources. It was their periodic systematisation which led towards progress. *Caraka Samhitā* became a landmark by a creative revision of its forerunner, *Agniveśa Tantra*, that had appeared several centuries earlier. From the current perspective, basic medical sciences in the *Caraka Samhitā* could be placed under anatomy including embryology; physiology represented by digestion, blood circulation and respiration; and pharmacology. Pathology did not exist as a separate subject unlike etiology (nidāna), and remained a part of medicine which covered a vast area including food and nutrition, obstetrics and gynecology, diagnosis, prognosis, poisoning, hygiene and many others. No wonder *Caraka Samhitā* echoed the *Mahābhārata* and claimed that whatever was found in it might be found elsewhere but whatever was absent in it would not be found anywhere!

A few among the numerous subjects discussed by Caraka are outlined below.

EMBRYOLOGY AND ANATOMY

The contributions of the male and female towards the formation of the embryo were represented by semen (śukra) and menstrual secretion (śoṇita). Semen is the ultimate derivative of all the constituent dhātus and pervades the body in a subtle manner. The formation of an embryo is more than the union of the male and female seeds in the uterus; it would take place only if the soul vitalised the union by its entry through the vehicle of the mind. The union of the paternal and maternal components in the embryo gives rise to two separate lines of derivatives. The paternally derived parts include hair, nails, teeth, bones, nerves, tendons and semen, while the maternal line is exemplified by skin, blood, flesh, intestines, heart, bone marrow and other soft parts. Deformities could therefore be classed as paternally or maternally derived. Gender was determined at the moment of fertilisation by the dominance of the paternal or maternal seeds.

Caraka described the monthly sequence of development of the fetus from the jelly stage to full term. The sequence of organogenesis was the subject of a major debate in *Caraka Samhitā* and drew equally serious attention in the Garbhopaniṣad associated with the Atharva Veda, and the Samhitās of Suṣruta, Bhela and Kāśyapa. However, a consensus on the sequence of development of organs eluded the medical authorities. It is interesting that the observations of various schools on fetal development, imperfect as they were, were not entirely speculative; they could not have been made without direct

observation of aborted tissues and fetuses at different stages of pregnancy.

Caraka's enumeration of bones corresponds more or less to that of the Atharva Veda and totalled 360 whereas Susruta's total came to 300. According to modern anatomy, the human skeleton is made up of 200 bones. The discrepancy occurred largely because the Indian physicians included all hard tissues - teeth, cartilages and prominences of bones -in the skeleton for computation purposes. Caraka's total exceeded Susruta's mainly because he included teeth sockets and nails in his list of bones. Caraka also mentions 200 joints which were not described earlier. The study of the human skeleton on the basis of cadaveric dissection was a major achievement of Indian medicine as shown by Hoernle's painstaking studies. As the cadaveric dissection was carried out by scraping bodies rotting in water, it is not surprising that soft tissue anatomy - muscles in particular - was defective. Caraka mentioned the heart and its location but did not describe its gross structure. He discussed body channels (srotas) in great detail and used the terms, dhamanī, sirā and srotas interchangeably. The heart gave origin to ten dhamanīs which ramified all over the body. The number of dhamanīs and sirās were fixed at 200 and 700, respectively, even though Caraka admitted that they were unverifiable. He differentiated head (śira) from the brain (mastiṣka) but did not associate the brain with consciousness, sensory or motor functions or mental disorders. As the enumeration of organs shows, Caraka had a comprehensive knowledge of the viscera, their location and functions. He lauded the study of anatomy, which was given much importance.[3]

DIGESTION

Caraka's exhaustive treatment of food and drinks shows a sound understanding of nutrition. The digestion of food by 'fire' in the stomach (āmāśaya), its subsequent passage into the gut (pakvāśaya}, the emergence of chyle (āhārarasa or āhāraprasāda) and waste (mala) as the twin products of digestion, and the transformation of chyle into various dhātus of the body by the five fires of the bhūtas and seven fires of the dhātus constitute the main stages in Caraka's physiology of digestion. The unidirectional movement of food and drinks from above downwards was attributed to the action of vāta. The organs of the gastrointestinal system and the functions of the gastric juice and bile were not only recognised but the stimulation of the digestive fire in the stomach (dīpana) became a significant part of medical treatment. The importance attached to the waste products (mala dhātus) to which the three doṣas belong was unique in āyurveda.

BLOOD CIRCULATION

The location of the heart and its life-sustaining function were known to Caraka who looked upon it as the abode of consciousness and self. The heart was seen as a receptacle into which three streams of fluid flowed - blood formed in the liver, ojas or the fluid essence of life and rasa dhātu (not chyle). Just as a house is supported by pillars and rafters, the heart was believed to support the body including the senses and the mind. It was the seat of the soul. Some of the dhamanīs arising from the heart have, according to Caraka, sensory and motor functions through which it exercises control over the body. Besides these, other dhamanīs, sirās and srotas, it was believed, transported the three fluids from and to the heart.

According to Caraka, healthy blood has the colour of molten gold, padmarāga, the colour of the insect called indragopa or the gunjā seed. When acted upon by vāta, it becomes red and thin; pitta makes it darkish yellow and prolongs clotting time; kapha makes it thick, pale and fibrous. Even

though the distinction between venous and arterial blood was only dimly perceived, delayed clotting was known.

Although Caraka noted pulsations in the neck arteries,[4] he did not connect them to the function of the heart. The three fluids moved in and out of the heartjwhich was a reservoir and not a pump. The fluids, on reaching the dhātus, were consumed and did not return to the heart, which received replenishment from newly digested food and drinks as fresh supplies of blood, ojas and rasa. Tissues receiving blood were clearly mentioned when Caraka noted the supply of blood from the heart to the maternal surface of the placenta. The distribution of blood from the heart was known but not its return. As noted by Kutumbiah,[5] it would be farfetched to equate this concept with the circulation of blood. But the movement of blood towards and away from the heart was known.

RESPIRATION

The lung (kḷ ōman) was known to Caraka but its role in respiration was not. Instead, he recognised two components of vāyu - prā ṇa and udāna-which coursed through the main air duct or trachea (mahāsrota) and sustained the breathing process. Prā ṇa was located in the head, chest, ears, tongue, mouth and nose while udāna was located in the chest and throat. Inspiration and expiration were identified with prā ṇa and phonation with udāna. The presence of moisture in exhaled air was noted. Air, compartmentalised as prā ṇa and udāna and flowing through the air ducts, constituted the principal mechanism of respiration. Vāyu which was given supreme importance by Caraka also had the property of stimulating body fire. He pointed out that vital breath (prā ṇa) follows blood in its course. The functions of vāyu, according to Caraka, constituted the basis of respiratory function in man.

BRAIN FUNCTION

The head and brain were distinguished from each other in the Atharva Veda and *Caraka Samhitā*, but neither connected brain with consciousness or brain-based disorders such as mental illness or epilepsy. Among Caraka's predecessors, Bhela was the only one who located the seat of consciousness between the top of the head and palate. It is intriguing that the āyurvedic authorities took no note of the tantric views on the levels of consciousness and their correlation with the centres in the spinal cord and the brain. It is unlikely that Tantra did not exist when the *Caraka Samhitā* and its revision by Dṛdhabala were written.

PHARMACOLOGY

In the discussion on the mechanism of action of medicinal plants, it was pointed out that the qualities of taste (rasa), taste after digestion (vipāka), potency (vīrya) and specific effective action (prabhāva) of substances -food and drugs - were responsible for their action on the body. As the chemical means for classifying drugs did not exist, its forerunner - rasa - became the basis for the choice of diet and drugs for treatment in āyurveda. The Sanskrit name given to chemistry in later years was 'rasatantra'. Although primary tastes (rasa) were recognised to be six, their combinations totalled 63. Besides, the tastes experienced at the time of eating would change following digestion, when food and drugs would become fit as chyle to enter the body components (dhātus) from the gut. The digested products would also acquire a new quality - potency - which they did not possess earlier. Lastly, ingested substances could produce effects which could not always be explained on the basis of taste. The rasa

theory postulated that rasa, vīrya, vipāka and prabhāva were responsible for the effects of food and drugs on body components and doṣas. The actions of food and drugs in turn, would be twofold: if the properties were similar, the ingested articles would strengthen the disturbed doṣa or dhātu (sāmānya); if dissimilar they would diminish them (viśēṣa). Through these two mechanisms, food and drugs could be used to correct the imbalances (vaisamya) and restore the equilibrium of body components and doṣas. Imbalances after all arise from excess or deficiency of dbātus and doṣas.

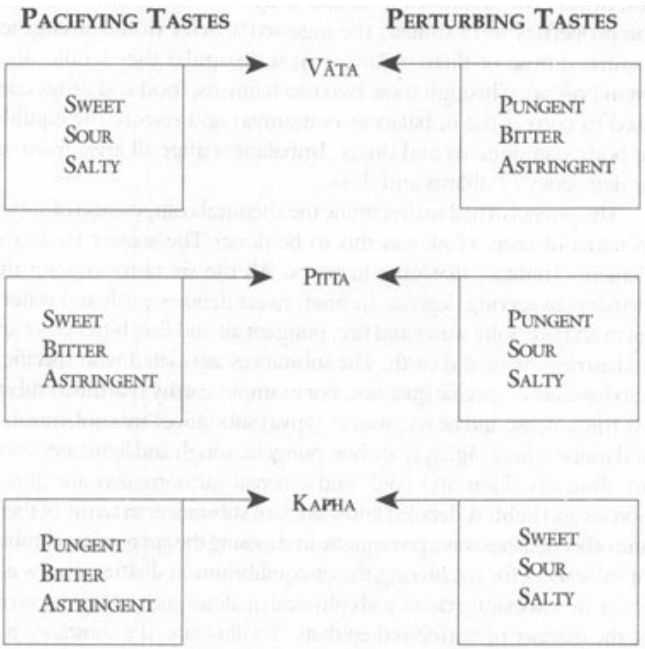


Fig. Ii Effects of tastes on doṣas

The physician had to determine the chemical composition of substances in terms of taste. How was this to be done? The answer lay in the five elements (bhūtas) that exist in tastes. All the six tastes contain the five elements in varying degrees. In brief, sweet denotes earth and water; sour earth and fire; salty water and fire; pungent air and fire; bitter ether and air; and astringent air and earth. The substances associated with specific tastes also have other specific qualities. For example, earthy (pārthiva) substances are thick, dense and heavy; watery (āpya) substances are cool, moist, heavy and mobile; fiery (āgñeya) are hot, pungent, rough and light; airy (vāyavya) are thin, dry, light and cold; and ethereal (ākāsātmaka) are thin, mild, porous and light. A detailed knowledge of substances in terms of their taste and other qualities was a prerequisite in choosing the appropriate combination of substances for countering the disequilibrium in dhātus. This was made easier by associating tastes with physical qualities such as heaviness or heat, in the manner of transferred epithets. To illustrate, if a substance is heavy and tastes sweet, the sweetness was termed as heavy. For treating patients it was also necessary to know how substances with certain tastes would act on the doṣas which, on perturbation, became the cause of disorders. Here a physician had to remember that substances which were pungent, bitter and astringent would perturb vāta whereas sweet, sour and salty would pacify it. Similar combinations of tastes which perturbed and pacified pitta and kapha were also stipulated (Fig. I.i). In accordance with the law that similar substances add to bulk and dissimilar would reduce it, substances with similar properties would increase the respective doṣas whereas those with opposite properties would reduce them. Once a physician understood tastes and their relationship to dhātus and doṣas, he would begin to mature as a practising physician.

With so many factors to keep in mind, it was little wonder that the training of a physician was arduous and involved a long process of apprenticeship under an experienced teacher.

PRACTICE OF MEDICINE

While discussing true and fraudulent physicians, Caraka indicated his concept of an ideal physician and his practice. An aspirant for medical training had to prepare himself by getting a liberal education and sufficient knowledge to opt for a particular branch of training. On the completion of training, a physician was expected to possess a thorough knowledge of substances that make up food and drugs, anatomy, physiology, etiology and pathology, dietetics, pharmacology including the identification of medicinal plants and their processing for making formulations. He had to have the practical skills to carry out various procedures such as pancakarma, and the ability to deal with complications (upadrava). Caraka's descriptions of the management of piles and postnatal care exemplify the ideal combination of knowledge, skill and understanding that was required of a physician. His reference to the care of babies was a model of gentleness and practicality.

A physician was obliged to know the natural course of diseases and their likely outcome in terms of relief, cure or incurability. He had to acquire the confidence that his treatment would bring relief or cure except when the disease had become incurable or the death of the patient was inevitable. Under such circumstances, he was to refrain from taking drastic and costly measures for treatment. Illness and destiny being what they are, a physician had to anticipate death, whenever necessary, from a careful look at the course of the disease, the patient's dreams, his home and surroundings and natural and unnatural happenings in relation to his clinical encounter. In dealing with the possibility of a fatal outcome, a physician had to summon his internal resources of strength and stay with the patient as a friend till his last breath. A competent physician had to shun violent breaks with tradition. Caraka's approach made no reference to yogāsanas or meditation as procedures in the practice of medicine.

Caraka was never dogmatic in his approach to treatment. He always gave his instructions in the potential (liṅg), and not the imperative(loṭ), mood. He made it clear that textual instructions were not the final word for a competent physician who should apply his mind to the whole patient, the state of illness, time and place and all other circumstances before settling on a course of action. He had to be liberal in outlook, ready to accept that his was not the sole line of effective treatment and that many styles of living could be conducive to good health.

Although Caraka recognised compassion as the motive power of medicine, he did not forbid physicians from accepting a fee for service except from teachers, sages and certain others. His policy for treatment has sometimes been viewed as being slanted in favour of the affluent. This view is debatable because a standard medical text would always prescribe the ideal treatment for a disease regardless of its cost. Caraka was sensitive to the problems of the poor and pointed out in his discussion on fomentation that effective treatment without frills should be given to those who could not afford the full treatment. He was perhaps one of the few ancient writers who said anything at all about tailoring treatment to suit the poor.

The only occasion for Caraka to use harsh language was for the condemnation of imposters and fraudulent physicians. He also repeatedly cautioned against medical adventurism and the institution of treatment for hopeless and incurable conditions. Whether this had anything to do with the stringent laws laid down in Kauṭilya's *Arthaśāstra* is unknown. According to the view of Śāmāśāstri, *Arthaśāstra* was written around 300 BC and contained an accurate portrayal of the political, social

and legislative conditions in the Mauryan empire which covered the entire north of India. The *Arthaśāstra* ruled that a physician and the manager of a house for treatment would be regarded innocent only if they reported the secret treatment of a patient suffering from 'ulcer or excess of unwholesome food or drink' to the officers of the Government (sthānika).[7] It had also laid down severe punishment including death for physicians undertaking treatment without informing the Government of the dangerous nature of the disease and causing the death of a patient or aggravation of illness.[8] Neither Caraka, who lived after Kauṭilya, nor Dṛdhabala who came several centuries later, took note of the disciplinary provisions on medical practice, probably because they felt that laws and regulations had no place in a scientific treatise. What is no less remarkable is the fact that the weights and measures mentioned by Caraka differ from those mentioned by Kauṭilya, notwithstanding a few common terms such as pala and tula. It is possible that the old order had radically changed in the Kuṣāna empire where Caraka is believed to have lived.

CARAKA THE TEACHER

Caraka's high standards for the selection of students were matched by equally rigorous demands on the teacher. The studentship was demanding and continued until the preceptor judged him fit to practise medicine. Learning textual passages by rote over many hours, collecting and processing medicinal plants, accompanying the teacher on domiciliary visits, taking part in exacting discussions, and doing domestic chores claimed the attention of pupils whose life revolved around the preceptor and the unceasing practice of religio media. The high point of learning was undoubtedly the discussions held under the guidance of the teacher. The many discussions recorded in *Caraka Samhitā* were chaired by Ātreya who introduced a theme on his own or took the cue from the questions of Agniveśa. The exchanges were lively with the active participation of students who did not shrink, when opposed, from countering the views of others. The discussions ended with a summing up by Ātreya and the development of a consensus. The great emphasis laid by Caraka on the logical parameters of debate would make sense when we realise that skill and proficiency in debate were high on the list of attainments for ambitious students in training. To what extent was Ātreya real and to what extent his classroom was a mirror of Caraka's is difficult to confirm (Fig. I.ii). However any reader of the *Caraka Samhitā* is left in no doubt that its author was not only a legendary physician but also an expert teacher.

HUMAN DESTINY

Steeped as he was in the Indian philosophical traditions, Caraka was intensely aware of the human condition and the tragedy of illness. His response to pain and suffering differed from the position held by the traditional systems of philosophy which regarded false knowledge as the ultimate cause of human bondage. In different ways, they sought liberation from bondage by shedding false knowledge, and attaining the highest truth, which was the goal of life. It was characteristic of Caraka to take an independent view and hold that evil and suffering, in the ultimate analysis, result from errors of judgement and imprudent conduct (prajñāparādha). Unlike false knowledge or delusion, which are metaphysical concepts, flawed judgements are mundane and easier for mankind to shun and correct. Caraka recognised three motive forces of life: long life, material comfort and happy existence hereafter. A good life or a happy life (hitāyu, sukhāyu), according to him, was that which advanced the threefold motives. Although obliged to come to terms in one place with the traditional view that the end of sorrows could be achieved only by withdrawal from action, the course of conduct he

endorsed was very far from cessation of action.[6] He urged enthusiastic action in pursuit of the three basic desires, free from errors of judgement and imprudent conduct.

Fig. I.ii Master teacher and disciples in discussion

If errors of judgement cast so heavy a shadow over action, is it within human power to abstain from them? Are human actions no different from the random movement of a dry leaf in the wind!1 The question of free will had been vigorously debated in India for centuries, with supremacy being assigned sometimes to man and sometimes to the gods by opposing schools of thought. However, if predestination is carried to its logical conclusion, Caraka pointed out, much of human effort and even the practice of medicine would become pointless. He admitted that the price for grave sins and acts of great moral depravity had to be paid and that no human effort could repeal or ward off their inevitable effect. However, the majority of errors in judgement and conduct lack a moral dimension in so far as they relate to the struggles of daily living. It was obvious to Caraka that if a person chose to remain well by paying attention to hygiene, wholesome food and other aspects of proper conduct, it could not be argued that his wellbeing had been preordained. While karmic punishment was inevitable for crimes and sins of great magnitude, all other errors which were the lot of ordinary people could be avoided or corrected by the conscious choice of gooc conduct. Good conduct, in his view, implied the avoidance of the overuse, underuse and misuse of the senses and the mind. His ideal was neithel the renunciation of desire nor non-attachment but a full and and righteous life which one could enjoy in perfect harmony with his surroundings. A healthy life, in Caraka's view, had to be a righteous life.

Caraka's ethical position implied that each individual enjoys free will in relation to ordinary actions, which do not necessarily possess a moral content. The responsibility for proper conduct and effort rested with each individual no matter who he might be. Caraka did not spare the sages from this rule because they developed diseases of surfeit in the plains and had to retire to the Himalayas for rejuvenant therapy! What applies to the individual applies to the community in full measure. In vivid

terms he noted that when the moorings in righteousness are lost, pestilence and ruin would become the destination of a community.

ATTITUDE TO WOMEN

A modern reader might claim that Caraka paid scant attention to women in his teaching and practice of medicine and his theatre of action was essentially a man's world. The gods, sages, physicians, pupils, patients, attendants and all other dramatis personae in *Caraka's Samhitā* were invariably men; male progeny was preferred and a special ritual during early pregnancy to obtain a son was prescribed approvingly; upon delivery, the attendant whispered the glad tidings of the birth of a son - not daughter - to the mother; shapely women were employed occasionally like medical appliances in the treatment of patients with illnesses such as high fever; and finally, a code of conduct cautioned that too much authority and trust should not be placed in women. It must be admitted that the attitudes and vocabulary in Caraka's *Samhitā* are overwhelmingly male.

We should however make a serious mistake in judging Caraka's attitude to women on the basis of textual references, unmindful of the times he lived in and oblivious of the status of women in other contemporaneous civilizations in the world. In the Upanishadic period, Gargi and others took part in philosophic debates before learned assemblies and proved that talented women had access to education. The advent of Buddhism many centuries later opened new vistas for women and widened their social and educational opportunities. This is not to suggest that equal rights had been achieved in ancient India but to indicate that the 'old, far-off' days were not those of unrelieved gloom for women. Indeed few countries in the world could claim to have considered, let alone achieved, equal rights for women until the twentieth century. Disabilities and denial of opportunities for women continue to maim the society even as we enter the twenty first century, especially in India. One may therefore be unfair and off the mark in laying gender bias to Caraka's door.

Caraka was an extraordinary physician who confined himself at all times to the teaching and practice of medicine. A votary of religio medici, he was businesslike in his approach and discussions and indifferent to his literary style. Social reform was no part of his agenda and he was averse to making violent breaks with tradition. He was howrever ready to depart from tradition in the field of medicine, such as switching from faith-based (daivavyapāśraya) to reason-based (yuktivaypāśraya) practice or at any rate, endorsing the switch. As a physician, he served women with efficiency and compassion, and his discussions on female genital disorders, pregnancy and delivery reveal a profound understanding and professional expertise in managing the ailments of women.

CONCLUSION

Honoured over centuries, how might Caraka view the river of medicine, rising from an obscure past, ever-flowing, ever-growing, and racing to the floodwaters of today? Might he not tell us 'I had charged you to learn the medical texts, but never to lose sight of reason in the practice of medicine. Obsession with the written word is the habit of the mediocre; the wise go beyond and inherit the experience of the world. I had urged you to learn from the sages as well as the shepherds; both are teachers in their own way. But what is known is infinitely smaller than what is unknown, and the quest for knowledge is never ending. Yet you believed I was all-knowing and what I said was immutable. You read into me a super-intelligence. You made me an icon while you rested on the oars, unaware that other nations were sailing on. Now that you have broken out of apathy, you feel let down

by your ancient heritage. You have taken to heart that where you proclaimed I had super-intelligence, I have none; where you found plentiful cures in my text, you now find none. Distraught, you have replaced the old with new icons.

‘I had urged the use of reason because the lack of it goes ill with the practice of medicine. But you have enthroned reason to the rejection of all other authority and justified morality in terms of reason and knowledge. It has escaped you that by setting them apart, you have enslaved morality to knowledge. Does it worry you that the tree of knowledge without morality has given you a harvest of bitter fruits? It has banished compassion and set humans against themselves and against nature. In the name of superior knowledge, it has sought to wipe out local cultures and customs through which human nature flowers in a thousand ways. It has ridiculed whatever defies comprehension without the wisdom to acknowledge that there is enough in the mysterious to satisfy believers.

'You would do well to remember that you are on new ground where knowledge is preferred to wisdom, where profit is confused with happiness and success is mistaken for triumph. You should look at where you are and where you are headed. Do not expect miracles of me. I have none to offer. I have left you a heritage which, though all-embracing, exists within a world of unknown reserves of knowledge, experience and faith. It behoves you to explore the trackless land, even as your forefathers did, and enhance your power to heal. But far from glorifying knowledge, you should celebrate good conduct, free from extremes and errors of judgement. āyurveda owes its call not to selfish goals or worldly pleasure, but to compassion for fellow beings. In seeking to know my legacy, you have but seen the leaves of a universal tree, too vast for your eyes. May your sight grow and your quest never end.'

II *Atharva Veda to Caraka*

WHY ATHARVA VEDA?

Caraka urged the votaries of āyurveda to be loyal to the Atharva Veda which is also known as Brahma Veda. *Atharva* implied the control of restlessness and its replacement by steadiness (dharvatiścarati kasmātatpratisedhah), and many of the atharvan hymns (mantras) were concerned with philosophical and spiritual ideas - brahma vidyā, yoga vidyā and ātmā vidyā. But a substantial part of the six thousand hymns and one thousand prose lines of the Atharva Veda dealt with the human body, its disorders and their cure. The *Gopatha Brāhmaṇa,* in fact, explained the term Brahma Veda in the following words: 'The Atharvan hymns are curative; what is curative makes for immortality; what is immortal is Brahmaṇ.'[1] (Yo'tharvāranastad bheṣajam tadamṛtam yadamṛtam tad brahma). The curative hymns were chanted to induce faith in patients with frightful dreams and illness of sinful origin; while touching patients with physical and mental illness with both hands; as commands to those with disorders of the head and mind; as adjuncts to tying amulets of precious stones or herbs; and to ward off the ill effects of spells and offensive rites. The Tāṇḍya Brāhmaṇa declared that the atharvan hymns are curative even for the gods.[2] It is believed that a lost rescension of the Atharva Veda - Cāraṇa Vidyā - was primarily medical and was the forerunner of ancient āyurvedic texts.

The invocatory nature of Atharvan hymns has often fostered the view that the practice of medicine was no more than magic and priestly hocus-pocus in the atharva vedic period. This is a misconception because the curative hymns clearly represent a synthesis of three older traditions. Firstly, there was a large body of knowledge on the healing properties of plants, derived from observations on life and environment. Consider the following hymns.

Varaho veda vīrumdham nakulo veda bheṣajīm

Sarpa gandharva yā vidustha asma avase huve

Yāh suparṇa āngirasordivyā yā rakhaṭo viduh

Vayorsi hamsā yā viduryāśca sarve pathatṛṇaḥ[3].

(I call upon those healing creepers known by pigs, mongoose, snakes and

gandharvas to protect us.

I call upon the healing herbs of the Angirasas known by kites, the divine

herbs known by raghats (probably bees) and the plants known by swans

to protect us).

Clearly, sick animals and birds choosing to eat selected plants which they normally never consume,

had caught the attention of ancient observers who sought to apply similar remedies in human situations. This was supplemented by the lore of shepherds and forest dwellers to whom Caraka makes a reference. Secondly, amulets, fire rituals and other practices must have been an old tradition among people whose faith in them was unquestioned. The Atharva Veda refers, in relation to the use of amulets, their superiority to 'hundreds of physicians and thousands of medicinal plants' (śatam hi asya bhisajah sahasram uta vīrudhah)[4]. Thirdly, philosophical and religious thought had grown and created an Atharvan milieu where a spiritual element became a natural component of every field of human endeavour. A heritage of such a composition could not have evolved except as a link in the chain of a much older tradition.

ATHARVAN ECHOES IN CARAKA

Several sages such as Kaṇva and Agastya who inspired Atharvan hymns are mentioned in *Caraka Samhitā* as participants in academic discussions or as authors of medical formulas. The tridoṣa doctrine which flowered during Caraka's time had, as mentioned elsewhere, been anticipated in the Atharva Veda. Similarly, a number of medicinal plants which formed the subject matter of twenty-five sūktas of the Atharva Veda have been shown to be part of the formulations prescribed by Caraka. Atharva Veda urged that many diseases were caused by the wrath of gods, which finds an echo in Caraka who traced the origin of baffling fevers to Rudra. There are many hymns in three sūktas of the Atharva Veda which refer to worms and their destruction by invocatory hymns, which metamorphoses into the pharmacologic management of worm infestation in Caraka's system. The effect of seasons on the incidence of disease (which finds repeated mention in *Caraka Samhitā*) had been anticipated in the Atharva Veda in the reference to the dreaded takman which could occur any time of the year (hāyaṇa) or get worse with a change of season - graiṣmika in summer, vārṣika in rains and śarada in autumn.[5] Hereditary diseases of āyurveda were called kṣetriya disorders in the Atharva Veda.

The Atharva Vedic sages were much concerned with takman or fevers. Their reference to a type of fever with a periodicity of two, three and four days is suggestive of malaria,[6] which was taken up for discussion in *Caraka Samhitā*. Other diseases include diarrhea, phthisis, jaundice, dropsy, ailments of the head, neck and heart, seizures, insanity, bleeding and injuries, all of which were described by Caraka. The mainstay of treatment for the disorders was invocatory hymns addressed to the gods or to the medicinal plants that were administered orally, topically or as amulets. Several rituals accompanied the treatment as testified by the Kauśika Sūtra of the Atharva Veda. Indeed, the Kauśika accounts of tying a rope of munja grass, drinking water with soil from an anthill and applying soil on bleeding wounds hark back to similar practices that are still in vogue in folk medicine. The procedures also included the insertion of an iron needle to open a blocked urinary channel. The basti procedure of Caraka obviously evolved from this ancient technique. However, despite being rooted in the Atharva Veda, the role of invocatory hymns, amulets and rituals had significantly declined in the āyurvedic practice of Caraka who subscribed to the view that the aim of therapy -largely physical - was to restore the balance among doṣas.

HUMAN BODY IN THE ATHARVA VEDA

The Atharva Veda devoted the entire Kena Sūkta[7] to the 'wonderful structure of man', which lists bones and body parts and prefaces each hymn with the enigmatic question 'who designed it'? Unlike Suṣruta who postulated that there were 300 bones in the body, Caraka adhered to the total of 360 in

the Kena Sūkta. An illustrative list of bones would show the Atharva vedic provenance of Caraka's osteology.

	2
Pārṣṇī (heels)	2
Gulphau (ankles)	2
Aṅguli (digits)	60
Ucclaṅkhā (metacarpal bones)	2
Pratiṣṭa (base)	1
Aṣṭhivantau (kneecaps)	2
Jaṅghā (shanks)	2
Jānusandhi (knee joints)	2
Śroṇī (pelvic cavity)	2
ūru (thigh bones)	2
Ura (breast bone)	1
Grīva (wind pipe)	1
Stana (breasts)	2
Kaphoda (shoulder blades)	2
Skandha (shoulder bones)	15
Pṛṣṭi (ribs)	24
Amsa (collar bones)	2
Lalāṭam (forehead)	1
Kākatikā (central facial bone)	1
Kapāla (cranium)	1
Cityam hanvoḥ (jaws above and below)	**1**

The spinal column (kikasaḥ) and thoracic spine (anūkya) were mentioned elsewhere in the Atharva Veda.

The knowledge of organs in *Caraka Samhitā* was also derived from the Atharva Veda. It is interesting that the vedic context for enumerating the organs occurs when a priest is reciting seven mantras to exorcise tuberculosis (yakṣmā) from the organs.[8] The organs were the following:

1. Akṣi (eye)

2. Nāsikā (nose)
3. Karṇa (ear)
4. Cibuka (chin)
5. Śīrṣa (head)
6. Mastiṣka (brain)
7. Jihvā (tongue)
8. Grīva (neck)
9. Uṣṇīhā (nape of neck)
10. Kikasah (spinal column)
11. ānūkya (thoracic portion of spine)
12. Dōṣān (upper arm)
13. Hṛdaya (heart)
14. Kukṣi (side of abdomen)
15. Plāśi (colon)
16. ūru (thigh)
17. Aṣ ṭhīvat (knee)
18. Pārsṇi (heel)
19. Prapāda (arch of foot)
20. Bhāsādya (penis)
21. Śroṇī (waist)
22. Bhāsāda (buttock)
23. Bhāmsa (vagina)
24. Asthi (bone)
25. Majjan (marrow)
26. Snāva (muscle)
27. Dhamanī (artery)
28. Kḷoman (lung)
29. Halīkṣṇa (gall bladder)
30. Pārśva (side of chest)
31. Mātasna (gall duct)
32. Plīhan (spleen)
33. Yakan (liver)
34. āntra (small intestines)
35. Guda (ano-rectum)
36. Udara (abdomen)
37. Pāṇi(hand)
38. Aṇgula (finger)
39. Nakha (nail)
40. Aṇga (limb)
41. Loman (hair)

42. Paṛvan (joint)
43. Tvak (skin)
44. Vaṇiṣ ṭhu (rectum)

UNANSWERED QUESTIONS ON THE BODY IN THE ATHARVA VEDA

The Kena Sūkta does not stop at the body and its structure, and raises a host of other questions. Where did good and bad come from? What about illness, sleep, poverty and plenty and knowledge? Who created the design of man? Who determined his course? Who instilled the vital breaths - prā ṇa, apāna, vyāna and samāna - in him? Who brought forth truth and untruth? Where did death come from? Who fixed lifespan? How could one gain immortality? Who instilled potency in the semen and kept the chain of life unbroken? Among the ceaseless flow of philosophical questions, the body was not lost sight of. Who causes the flow of fluid, red and dark, like rivers in spate, upwards, downwards and everywhere in the body? This referred to the flow of blood in arteries and veins, but anticipated the network of ever-flowing srotas of Caraka who also drew upon the vedic concept of vital breaths. The Atharva vedic tradition of freely moving back and forth between the physical and philosophical domains also found frequent echoes in *Caraka Samhitā*.

CONCLUSION

The covered drains, bath, toilets and town planning of Harappa, Dhola Vira and other sites indicate the practice of public health measures by the Indus valley people. Their script continues to remain an enigma, and therefore we are at a loss to know the ideas and concepts that inspired their magnificent public health works. We can only speculate as to whether the Atharva Veda which came a thousand years later in circa 1500 BC, contains echoes from the Indus valley. There is, however, no doubt that the Atharva Veda was more concerned than the other Vedas with the ancient struggle of man against illness. It provided the inspiration for the development of āyurveda.

Over the fifteen centuries that probably elapsed between the Atharva Veda and *Caraka Samhitā*, concepts such as tridoṣa evolved and became complex doctrines, diseases and their management became systematised, herbal formulary expanded vastly, physician's training and ethics took formal shape, and the role of hymns and rituals became vestigial. No wonder Caraka called for loyalty to the Atharva Veda from the āyurvedic community.

III *Diseases in Caraka's Period*

According to Caraka, diseases are so many and so varied that their classification is far from easy. They could be grouped differently based on causation, location, prognosis and other changeable factors. The causes may be more than one—predisposing and precipitating; location may shift; and prognosis may change. In fact, the course of diseases may change in unpredictable ways. Some diseases may disappear and new ones may emerge. It may sometimes be difficult to distinguish a disease from a cluster of symptoms. One disorder may lead to another; an identical cause may produce diverse symptoms or alternatively, different causes may cause identical symptoms. Instead of attempting to classify the countless and changeable diseases, Caraka chose to group them on the basis of disturbed doṣas because diseases, no matter what their nature, are no more than manifestations of disturbed doṣas. If the doṣas are set right and their equilibrium (doṣasāmya) restored, disease manifestations, according to him, would take care of themselves. As the imbalance in doṣas is the unchanging basis of changing diseases, the attempt to restore equilibrium could be expected to remedy not only existing diseases but also other diseases that could appear in the future.

Caraka was an internist par excellence, whose compendium is encyclopedic in the coverage of diseases. He largely left out specialties -surgical ailments, children's diseases, eye disorders and so forth - because they were, in his opinion, better handled by specialists. The encyclopedic coverage of internal medicine, the graphic descriptions of clinical features and the wealth of details on medical management make *Caraka Samhitā* a living medical text despite the passing of two thousand years.

A medical text which primarily targets physicians would be obliged to reflect the clinical realities of the day and age. A textbook of medicine written in the early twentieth century, for example, would contain long sections and plenty of references on infectious diseases such as smallpox, cholera and plague, and devote much less space to non-infectious disorders such as cancer. An edition of the book brought out a a hundred years later would present a very different epidemiological picture. The sections on smallpox, plague, diphtheria and other infectious diseases which had disappeared would be abridged whereas the discussion on cancer and heart disease would be greatly expanded. 'New' problems such as AIDS would also receive significant attention. The importance given in an authoritative text to a disease is therefore an indirect but reliable index of its incidence and its contribution to contemporary mortality and morbidity. The argument would apply equally well to procedures for diagnosis and treatment. It is therefore possible to sketch an epidemiological picture of northwest India in Caraka's period on the basis of the references made to various diseases in *Samhitā*. To facilitate understanding from the twenty-first century perspective, the diseases could be considered under infectious and non-infectious categories even though Caraka did not envisage such a classification. Although far from perfect, a study of this kind could nevertheless prove interesting and give us clues to the historical evolution of diseases. In Caraka's vast canvas, we might discover current maladies in true or altered form, or chance upon diseases that we no longer see. The digitised

version of *Caraka Samhitā* prepared by Prof Yamashita of Kyoto University has facilitated a literature search on these lines.

The search for references to the two categories in the *Caraka Samhitā* has been limited to the following diseases which are illustrative.

Infectious diseases and infected conditions

Grahaṇi (digestive disorders)

Jwara (fevers including complex fever)

Kuṣ ṭha

Masūrikā (smallpox)

Śoṣa

Vidradhi

Visarpa (cellulitis)

Viṣūcika

Vṛaṇa (sores)

Non-infectious diseases

Apasmāra

Arśa (piles)

Gulma (gaseous lumps of abdomen)

Hṛdroga

Madātyaya (alcoholic disorders)

Pāṇḍuroga (disorders of pallor)

Pramēha (polyurias)

Rakta pitta (bleeding disorders)

Unmāda (insanity)

INFECTIOUS DISEASES AND INFECTED CONDITIONS

Grahaṇi (digestive disorders)

Digestive disorders occur when the digestive fire (agni) is disturbed by various dietary indiscretions, misapplication of evacuative measures, suppression of natural urges and poor adjustment of the individual to places and seasons. Grahaṇi is a collective label applied to several gastrointestinal disorders, the common basis of which would seem to be indigestion. The symptom complex includes delay in gastric emptying, headache, fainting, nausea and vomiting and abdominal pain. The food retained in the stomach may become partly toxic and join with vāta, pitta or kapha and give rise to a variety of disorders which involve systems other than the digestive system. As food no longer gets digested, the dhātus are deprived of nutrition and the body gets debilitated.

Vomiting or diarrhea may expel the undigested food in the stomach. The diarrheal form of eliminating undigested food is the central feature of grahaṇi disorders. Apart from acute symptoms such as fever, grahaṇi could produce swelling of the hands and feet in a chronic situation. A test for undigested food (āma) is that the stools would sink in water. The vātaja, pittaja and kaphaja varieties of grahaṇi have distinctive features.

The treatment of grahaṇi consisted of general measures for lightening the digestive system (śamana), evacuative procedures and the administration of substances for improving appetite. A large number of formulations were also available for use after the completion of the evacuative therapy. The physician had to exercise sound judgement in designing a treatment plan consisting of medical procedures and formulations and prescribing a suitable dietary regimen from an extensive menu. The prophylaxis against Grahaṇi consists of abstention from eating unwholesome food, eating more or less than necessary at improper hours, and eating before the previous meal had been digested.

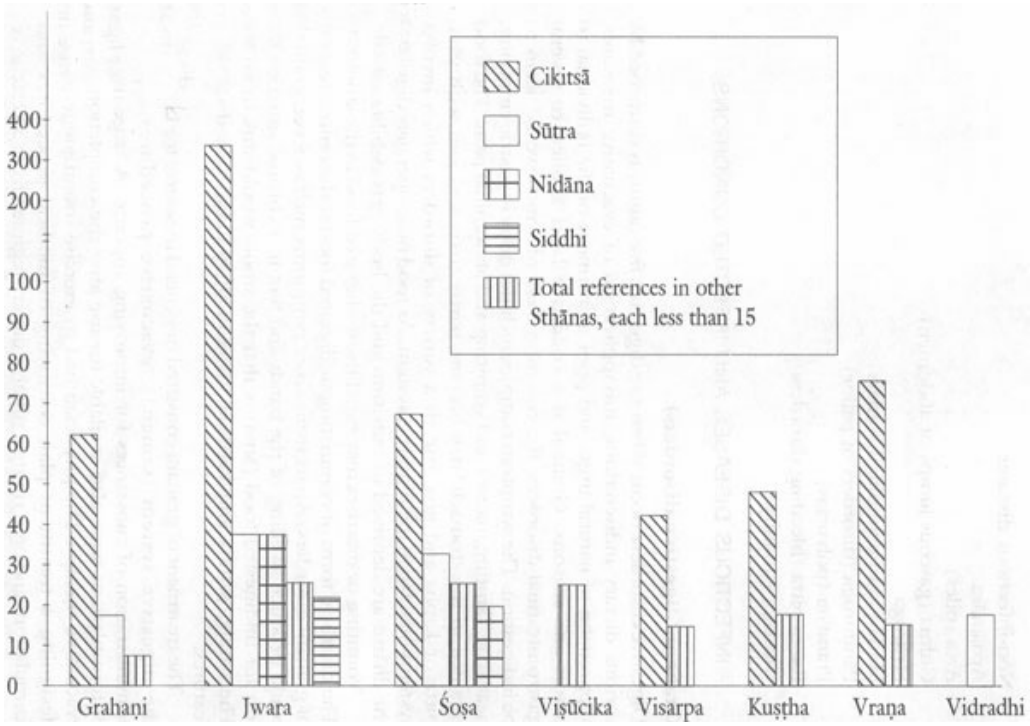


Fig. III.i References to infectious diseases and infected conditions

The discussion on Grahaṇi disorders (Fig. III.i) has 67 references relating to treatment (Cikitsā 61, Kalpa and Siddhi 3 each) and 17 of a general nature (Sūtra).

Jvara (fever) and viṣamajvara (complex fever)

As a common clinical entity, fever was a subject of everyday concern and enormous importance to the physicians. Caraka regarded it as the master of all diseases in animals regardless of species. According to him, living beings were born with fever and died with fever. He made no less than 430 references to fever, indicating its overwhelming importance in the practice of medicine. Therapeutics dominated his discourse in so far as 310 references in Cikitsā, 22 in Siddhi and 10 in Kalpa deal with the treatment of fevers. The causation, clinical features, classification, diagnosis and prognosis also received serious attention because Sūtra and Nidāna contained 39 references each and Indriya 9 on fever. Even Śarīra had a solitary reference to fever to illustrate preventive measures against the recurrence of disease[1](Fig III.i).

To bring some kind of order in the study of fevers which are so varied and so numerous, Caraka devised no less than eight criteria for different classifications. Some of the examples of the criteria are causation (somatic/psychologic, internal/external), clinical features (periodicity, severity), location (seven dhātus of the body) and prognosis (curable/ incurable). Regardless of the cause, the mechanism of fever was believed to follow a definite pattern. The perturbed doṣa was believed to acquire the digestive heat of chyle upon entering the stomach and thereby enhance its native heat. The overheated doṣa would then block the body channels including those of sweat and give rise to fever.

Many types of infective fevers including those of exanthemas and septicemia can be identified in Caraka's description. Accounts of complications such as mastoidal abscess and of 'crisis' in the resolution of fevers are also noteworthy. Of special interest is a fever with marked periodicity which corresponds to malaria.

The Atharva Veda had offered salutations to takman - fever with and without chills, fever which came on alternate days (anyedyuḥ), after two days (ubhayēdyuḥ), and after three days (tṛtīyaka)[2]. The fever with this striking periodicity had been dreaded for many centuries before the advent of Caraka who codified what was known from the Atharva Veda, from Agnivesa and other tantras that were extant, and from the floating traditions in his time. There are four fevers suggestive of malaria in Caraka's description even though he makes no reference to any geographical preference of the disease; nor does he refer to splenomegaly - often mentioned in the Samhita - as an associated sign of the fever.

The four types of fever are the following:

1. **Satataka:** Fever is remittent and peaks twice in 24 hours. This could be due to P falciparum or mixed infections.
2. **Anyeduṣka:** Fever is remittent and spikes once in 24 hours. This again is suggestive of infection by P falciparum or mixed infections.
3. **Tṛtīyaka (tertian):** Fever occurs on the first and third days, which points to P vivax and P ovale as the causative agents.
4. **Caturthaka (quartan):** Fever occurs on the first and fourth days and typically suggests infection by P malariae.

The periodicity of fever was believed to be caused by the gain in strength of doṣas over the fluctuating resistance of the body. According to Caraka, this is reminiscent of seeds remaining dormant in the soil only to sprout when conditions become favourable. After the bout of fever, the doṣas weaken temporarily and hibernate in the tissues to strike again[3]. The three typical stages of vivax malaria - cold, hot and sweating-are not highlighted by Caraka in this context even though he mentions fevers with cold and hot, sweating and non-sweating stages[4] and tremors[5] elsewhere. There is no mention of black water fever (a complication of falciparum malaria), but black urine finds a place among polyurias caused by perturbed vāta.[6]

The treatment of fevers consisted of reducing measures such as fasting, drinking plenty of water boiled with herbs or taking gruel. While mild fevers would respond to the reducing regimen, severe cases would call for evacuative measures including purgation, enema and head evacuation. Medical formulations were given only when the patient had been adequately prepared by such measures and his strength and digestive power had improved. A large number of formulations were recommended for the treatment of fevers. Specific formulas were recommended for the treatment of the four fevers suggestive of malaria.[7] Caraka clarified that the usual protocol for fevers should be abandoned in the management of tertian and quartan fevers which carry an extrinsic element in their causation (āgantuka). Being complex fevers (viṣamajwara), they called for special measures including lubricant therapy, lubricant and non-lubricant enemas, appropriate diet and formulations.

KUṢṬHA

Although kuṣṭha has become synonymous with leprosy, it was used as a generic term by Caraka who classified it into seven types. Perturbed doṣas were together believed to assail skin, muscle, blood and lymph and give rise to kuṣṭha, which could nevertheless involve any part of the body.

The seven types of kuṣṭha - kapāla, audumbara, mandala, ṛṣyajihva, pundarika, sidhma, kākaṇa - belong to the lepromatous type with varying degrees of ulceration, suppuration and proliferation of maggots. The kākaṇa type was regarded as incurable and was associated with loss of tissue of the affected parts. The six other types (which included those accompanied by the presence of anesthetic patches) were believed to be curable.

Kṣudrakuṣṭhas or minor kuṣṭhas differed from kuṣṭhas in causation, clinical features, prognosis and treatment. They were eleven in number and would correspond to such varied skin conditions as taenia versicolour, psoriasis, eczema, erythema multiforme and premphigus vulgaris.

The management of kuṣṭha included dietary regimen, evacuative measures and the administration of a wide range of formulations orally, locally and as non-lubricant enemas. The toilet and care of leprous ulcers were also emphasised in the management of patients.

Leucoderma (świtra) was differentiated from kuṣṭha but the therapeutic measures for kuṣṭha were believed to be effective in its management as well.

The analysis of references to kuṣṭha in *Caraka Samhitāis* complicated by the fact that the name of the disease is the same as that of a medicinal plant (Saussurea lappa) which is frequently employed for treating a variety of conditions. Against a total of 64 references to the disease in Cikitsā, Siddhi and Kalpa, there are 95 to the plant in the same sthānas. It should be noted that even among the 64 references to the disease, many merely mention kuṣṭha in listing disorders that respond to various medications (Fig. I.ii).

Masūrika (smallpox)

An unexpected finding is that *Caraka Samhitā* contains only two references to masūrika. Even though eruptions in relation to fever are mentioned in the chapters on fever (jwara) and cellulitis (visarpa) and elsewhere, they do not fit in with the clinical picture, infectivity and grave prognosis of smallpox;, nor does Caraka refer to the practice of inoculation against smallpox with variolous matter, a practice which existed in Bengal in the nineteenth century and had been in existence for hundreds of years.

The first reference to masūrika occurs in Indriya[8], which states that when masūrika breaks out like coral beads (pravāla guṭika) and disappears immediately the patient dies. The second reference to masūrika is to be found in *Cikitsā* where Caraka specifically discusses the treatment of various eruptions over the body.[9] The clinical features of rōmantika' would suggest measles and kakṣyā is undoubtedly herpes zoster in view of the distribution of eruptions 'like a sacred thread' on the body. Masūrika and visphōtaka are said to cause eruptions all over the body, and those of masūrika to resemble lentils and manifest disturbed pitta and kapha. No further details are given on their selective distribution, appearance or evolution. Visphōṭaka eruption is said to be associated with 'redness, fever and thirst'. Given the scanty information, it is difficult to conclude that visphōṭaka is chicken pox and masūrika is smallpox. It is well known that vesicular eruptions resembling 'coral beads' do occur in several febrile conditions but they do not disappear instantly. Whether a disease with vesicular eruptions which settled instantly, existed in Caraka's time and has since disappeared is debatable. The eruptions in smallpox, on the other hand, have not only a typical centrifugal distribution but also a time sequence ranging over several days when they progress from macule, papule and vesicle to pustule before drying up as infective scabs. This hardly corresponds to

Caraka's masūrika in the first reference. The second reference merely states that generalised eruptions of the size of lentils are manifestations of disturbed kapha and pitta. The ambiguity is such that of Prof PV Sharma labelled the eruptions in both references as chicken pox.

Smallpox is an ancient scourge which killed millions of people all over the world; the scant attention given to it by Caraka remains a mystery. Even if Caraka's discourse on smallpox had been lost like several chapters of *Cikitsā Sthāna,* it is surprising that Dṛdhabala did not elaborate on the contagion several centuries later. Given the encyclopedic coverage of internal medicine in Caraka Samhitā, it is hard to believe that a disease of epidemic proportions like smallpox would have escaped the notice of Caraka and Dṛdhabala. Therefore the possibility cannot be ruled out that smallpox was not prevalent as late as Drdhabala's time (circa fourth century AD) in northwest India. As Madhava Nidana discusses masūrika in great detail, the disease may have assumed epidemic proportions in subsequent centuries.

śoṣa

The gravity of pulmonary tuberculosis was rated so high that Caraka designated it as the king of diseases (rājayakṣmā). He regarded one who had mastered its treatment as fit to be a royal physician. The causes of tuberculosis were believed to be severe physical exertion, suppression of natural urges, emaciation and the habitual use of unwholesome food. The causative factors unsettle the doṣas, which in turn dry up the body. There was no suggestion that the disease was transmissible. According to Caraka, the disease affects the chest (uras); the lung (termed kloma elsewhere) found no mention. The kaṇṭhaśoṣa he mentions in passing seems to have been dryness of the oropharynx.[10]

Apart from the principal discourse on śoṣa, there are references to other conditions in the *Caraka Samhitā*, which could have been tuberculous in origin. For example, chest pain, cough and hemoptysis in chest injuries (kṣatakṣī ṇa);[11] glandular swellings on either side of the neck (gaṇḍamāla),[12] and marrow-derived fever[13] are suggestive of tubercular infections. However, the descriptions are so mixed that it is hard to separate say, bronchiectasis, lung abscess or empyema, and distinguish them from pulmonary tuberculosis. Suffice to say that all these conditions as well as the chronic bronchitis of the old, pleurisy and pneumonia can be reasonably located in Caraka's clinical descriptions.

The premonitory signs and symptoms and clinical features of pulmonary tuberculosis were dealt with in detail. The eleven symptoms which characterised the full-blown stage of the disease would be explained today as the manifestations of tubercular toxemia, pleurisy, laryngitis and the effect of swallowing infected sputum. Caraka however viewed them as local responses to the impact of disturbed doṣas as they moved here and there in the body.[14] Regardless of how many of the eleven symptoms were present, the outlook was regarded as poor for a debilitated patient. On the other hand, the presence of the full complement of symptoms would be no bar to treatment and cure if the patient was not severely wasted.

In the treatment of pulmonary tuberculosis, attention was paid to a highly nourishing diet consisting of meats including the flesh of carnivores, dairy products, wines and vitalising herbs. Medical procedures including various types of fomentation, massage, application of poultices and pastes, and venesection on occasion, were employed to manage severe pain in the head, sides of abdomen and shoulders. Caution was urged in the application of emesis and purgation, which were indicated in the

presence of copious secretions.

A nutritious diet and appropriate medical procedures were obligatory before the administration of formulations which could be decoctions, linctus, pills or powders. Nearly seventy herbs were recommended for preparing oral formulations. An experienced physician had to choose from among the wide range of formulations, and decide the appropriate combination for managing any or all of the eleven manifestations of śoṣa, including hemoptysis.

There are 133 references to śoṣa (Fig III.i) of which those in Sūtra (31), Nidāna (18) and Śarīra (3) are often incidental or used to indicate drying up. Treatment dominated the discussion on śoṣa and claimed 81 references in Cikitsā (67), Kalpa (5) and Siddhi (9).

Vidradhi

A sedentary person addicted to sleep and overeating fatty, salty and sour items falls a victim to the disturbance of three doṣas, which block the passage of ojas to the urinary bladder and give rise to diabetes mellitus. These patients are liable to develop boils and abscesses which are classified into seven types. Among these, vidradhi is the largest and the most serious.

Vidradhi may be located on the surface, involving the skin, muscles and tendon; it resembles a carbuncle. A more serious manifestation of vidradhi occurs internally as a result of perturbed doṣas targeting muscle and blood. This leads to glandular abscesses in the heart region, lung (kloman), liver, spleen, lumbar region, kidneys, groins and pelvic region. The signs and symptoms of these abscesses would vary according to their location and the nature of the underlying disturbance of doṣas. When the abscesses mature, they may break and discharge the contents through the mouth or anal orifice. The abscesses located in the heart, navel and pelvic regions have a grave prognosis. The diabetic who develops abscesses in the vital organs, shoulder, anal region, hands, breast, joints and feet seldom survives. The references in this section are directed at pyemic abscesses in a diabetic.

All the references to vidradhi (11) are found in Sūtra (Fig. III.i). However, as the management of abscesses overlaps that of sores, swelling and visarpa, several aspects of their treatment have been covered elsewhere in the relevant chapters of Cikitsā.

Visarpa (cellulitis)

Visarpa is a disease of acute onset. As the name implies it spreads in the affected tissues, that is, the skin, muscle, lymph and blood. Since it is said to complicate a surgical wound following the excision of a glandular swelling,[15] visarpa would appear to be cellulitis that could lead to the infection of the blood stream. It has seven types based on the perturbation of three doṣas individually and collectively, of pitta and vāta (āgneya) and of kapha and vāta (kardamaka). Of these seven types, the last (which takes on a glandular appearance) is by far the most serious. The causes of visarpa include major dietary indiscretions, eating during an episode of indigestion, uncovering of wounds by slipped bandages and exposure to fire and polluted air.

The disease may be confined to the external surface or to the interior of the body or involve both locations, with severity increasing in that order. While the external variety is curable and the internal type curable with difficulty, the involvement of both locations makes visarpa incurable. The internal type is especially prone to attack the vital organs.

Vātaja visarpa is characterised not only by small, reddish and blackish eruptions which rupture

easily, but also by fever with chills and other violent systemic symptoms. The eruptions are said to appear if the systemic symptoms are not managed promptly, suggesting that the prodromal symptoms would precede the appearance of eruptions. An exanthematous fever cannot therefore be ruled out but the clear reference to the affected part 'looking swollen, reddish or blackish' (śyāvārunābhāsa) would suggest cellulitis complicated by septicemia.[16] The local manifestations of pittaja visarpa include greenish, coppery and other hues, and raised eruptions with intense pain which suppurate quickly. It has severe systemic symptoms that differ from the vātaja type in the appearance of yellow colour in the patient's eyes, urine and stools and the patient's intense preference for cold substances and drinks. Here again, because of the emphasis on the affected part, cellulitis is a more likely diagnosis than a generalised eruptive fever, partly because it spreads along the lymphatics and blood stream with toxic hemolysis. The affected part in kaphaja visarpa is also swollen and spreading but is pale, numb and hardly painful. There are eruptions that seldom suppurate but release a viscous, slimy, oily discharge on rupture. The sites of rupture become large, chronic ulcers that heal only to break down again. The patient becomes markedly pale. The chronicity, oily discharge and multiple ulcers that heal and break down, and general debility point towards tubercular ulcers as the probable identity of kaphaja visarpa.[17]

When vāta and pitta are jointly perturbed, the clinical features of both types combine to produce a grave systemic illness with disturbed functions of the heart, restlessness and loss of consciousness. This is seldom curable. The condition is even graver when vāta and kapha are perturbed. The major signs and symptoms in this context are fever with chills, sweating, drowsiness, debility, bone pains, thickening of vessel walls, twitching of limbs and restlessness. The diseased part is full of red, yellow, pale or dark eruptions with suppuration. Putrid skin and muscle appear with little discharge. The decomposed tissues are not tender to touch and eventually fall off, releasing a cadaveric smell and exposing the underlying blood vessels and ligaments. Kardamaka has a grave prognosis and is suggestive of septic thrombosis and tissue gangrene.

When blood is the seat of disturbed doṣas, severely painful swellings of all sizes, round and red, appear all over the body in relation to blood vessels, ligaments, flesh and skin. This is accompanied by severe systemic symptoms leading to certain death. The reference here would probably imply generalised septicemia.

Treatment was recommended for the curable types of cellulitis and consisted of local applications, lightening and evacuative measures, dietary regimen and various formulations. Venesection was advised when the patient had evidence of the perturbation of blood by doṣas. Cikitsā and Siddhi contain 44 and 5 references to the treatment of visarpa (Fig. Ill.i). Of the total of 11 references in Sūtra, Nidāna, Vimāna and Indriya, five have no more than doubtful connection to visarpa as they use the verbal form of visarpa to denote spread in unrelated contexts. Excluding these, there are a total of 55 references to visarpa in the *Caraka Samhitā*.

Viṣūcika

Viṣūcika is a disorder of the gastrointestinal tract (koṣ ṭha). It occurs on overeating unwholesome food. This perturbs the doṣas which in turn, inhibits digestion and causes the elimination of undigested material (āmadoṣa) through severe vomiting and diarrhea. If the undigested matter fails to get eliminated and remains trapped in the body, an equally severe disorder called alasaka results with signs of generalised toxemia (āmaviṣa). In these disorders the internal passages become the seat of

swelling (śodha).

In the vātaja type, patients with viṣūcika would have colic, body ache, dry mouth, fainting, body stiffness and spasm, and paralysis of blood vessels (sirākuncanastambhana). In the pittaja mode, viṣūcika would be associated with clinical features including fever, thirst, giddiness and delirium besides vomiting and diarrhea. The kaphaja type would have fever with chills, lassitude and a sensation of heaviness.

The principles of treatment in the initial stage consisted of lightening measures, especially those aimed at improving the digestive power. A number of formulations were prescribed for application at this stage. When the condition improved, and not before, evacuative measures including enemas could be considered. The principles of treatment for viṣūcika and alasaka were similar.

Caraka's description does not indicate that viṣūcika was a fatal disease or a contagion; the clinical picture is more suggestive of gastroenteritis. Alasaka, on the other hand, was also a product of incomplete digestion (āma) but unassociated with diarrhea and vomiting. In this situation, the disturbed doṣas accumulated inside the body and gave rise to two grave and fatal complications - dandālasaka and āmaviṣa. Dandālasaka (where the body of the patient assumes rod-like rigidity) is suggestive of poisoning by say, mix vomica seeds whereas āmavisa, as the term implies, was a result of poisoning. Some of these vegetable products were used as medications and overdose was a possibility.

The number of references to viṣūcika total only 22 (Fig. III.i). The clinical features and causation were outlined in Sūtra (3) and Vimāna (3); treatment accounted for the remainder in Cikitsā (9) and Siddhi (7). From the clinical description and the number of references one can speculate that cholera was far less virulent in Caraka's time.

Vṛaṇa (sores)

Caraka recognised two types of sores. They were either the manifestation of disturbed doṣas which find an outlet on the surface, or were caused by external injuries such as those by a weapon. If an external type failed to respond to conventional treatment, one had to think of an underlying disturbance of doṣas as the cause of the non-healing sore.

The internally caused sores are the external, often cutaneous, manifestations of a systemic disturbance of doṣas. The description of their clinical features suggests that vātaja represents the acute inflammatory stage of pain, tenderness, induration and throbbing of a sore; pittaja is associated with fever, pain, suppuration and foul-smelling discharge; kaphaja, is a chronic lesion with mild pain and little discharge. The two types - internally and externally caused - were classified further into twenty types on the basis of various clinical features. This classification was used to guide therapy because the criteria for grouping included location, incisability, nature of discharge and openings, appearance of the floor of the ulcer, *etc.* No less than sixteen complications of sores were also noted such as cellulitis, blockage of blood vessels, fever with rigor and tetanus. The role of foreign bodies, faulty bandaging, systemic illness, location in intertriginous areas and presence of maggots in delaying the healing of sores was also clearly recognised.

The principles of treatment consisted of evacuative measures to begin with, followed by surgery and enemas. In fact, no less that 36 specific measures for general and local treatment were recommended, which included a number of surgical procedures and the application of a variety of

medicinal pastes to promote wound healing. Separate formulations were recommended as pastes for sores with depressed or elevated floor in order to increase or decrease the granulation tissue. Medicinal powders were similarly recommended to hasten the growth of skin cover and restore normal colour.

There are 75 references to the treatment of sores in Cikitsā, and 12 to the general aspects in five other sthānas put together (Fig.III.i)

NON-INFECTIOUS DISEASES

Apasmāra

Apasmāra is characterised by Caraka as a major disorder. The seizures were believed to occur when mind, in addition to disturbance by rajas and tamas, was affected by perturbed doṣas which entered the heart. As the heart is the abode of self and consciousness, this combination was believed to be potent enough to disturb consciousness and throw the patient into seizures. The brain did not figure in Caraka's analysis of diseases or their pathologic basis; nor did he emphasise the role of an exogenous or supernatural (āgantuka) factor in the causation of epilepsy. Epilepsy received far greater attention in relation to treatment than for causation or clinical features. Against 50 in Cikitsā, it claimed only 6 and 4 references each in Nidāna and Sūtra (Fig. III.ii). It was clearly distinguished from insanity (unmāda). Except for unwholesome food, the possible role of heredity, head injury and fever in the causation of epilepsy did not attract notice. There is nothing in Caraka's system that resembles sacredness or infectivity which influenced Western concepts of epilepsy until the nineteenth century.

Among clinical features, Caraka described premonitory signs and symptoms, seizures and the post-ictal state of confusion. The likelihood of patients injuring themselves was also highlighted. All the four types of epilepsy - vātaja, pittaja, kaphaja and sannipāta would seem to be grand mal seizures, the distinctions being based on the presence or absence of cyanosis and pallor; duration of seizure; the nature of hallucinatory visions and speed of recovery. Status epilepticus and focal seizures were not noted. As the disturbed doṣas were believed to be in abundance, evacuative measures dominated therapy. A large number of herbal formulations were also prescribed as anti-epileptics.

Arśa (piles)

Hardly any patient suffering from piles would approach an internist today because its treatment falls in the surgeon's domain. Caraka recognised the surgeon's role in treating piles but was concerned over the complications following excision and cauterisation. He therefore favoured medical therapy except in special situations when expert surgical assistance had to be sought. The importance attached to treatment is shown by the fact that there are 60 references to it in Cikitsā against 17 in all other sthānas put together (Fig. III.ii).

In terms of origin, Caraka recognised piles to be congenital or acquired. The congenital variety, he noted, was associated with a special personality type. Piles was well described as a fleshy outgrowth with location, distribution and morphology at the anorectal ring. He referred to similar swellings in the female genitalia, penis, skin, eyelids and other organs - angioma$ probably - but reserved the term 'piles' to the specific disorder at the anorectal ring. Acquired piles were believed to be brought on by dietary indiscretion, sedentary life style, faulty use of enema nozzle and other acts of omission and commission.

In the clinical context, piles were classified as vātaja, pittaja and kaphaja. The vātaja would seem

to correspond to an acute thrombosed pile or painful hematoma ('attack of piles'); pittaja resembles a subacute situation with inflammation, discharge and systemic disturbance; and kaphaja piles appear to be large and non-tender swellings with mucus discharge, suggesting chronic prolapsed piles. This is no more than a reasonable attempt at identification because Caraka's description refers to several other features such as pallor and passage of gravel in urine which may have been present as concomitant findings in individual patients.

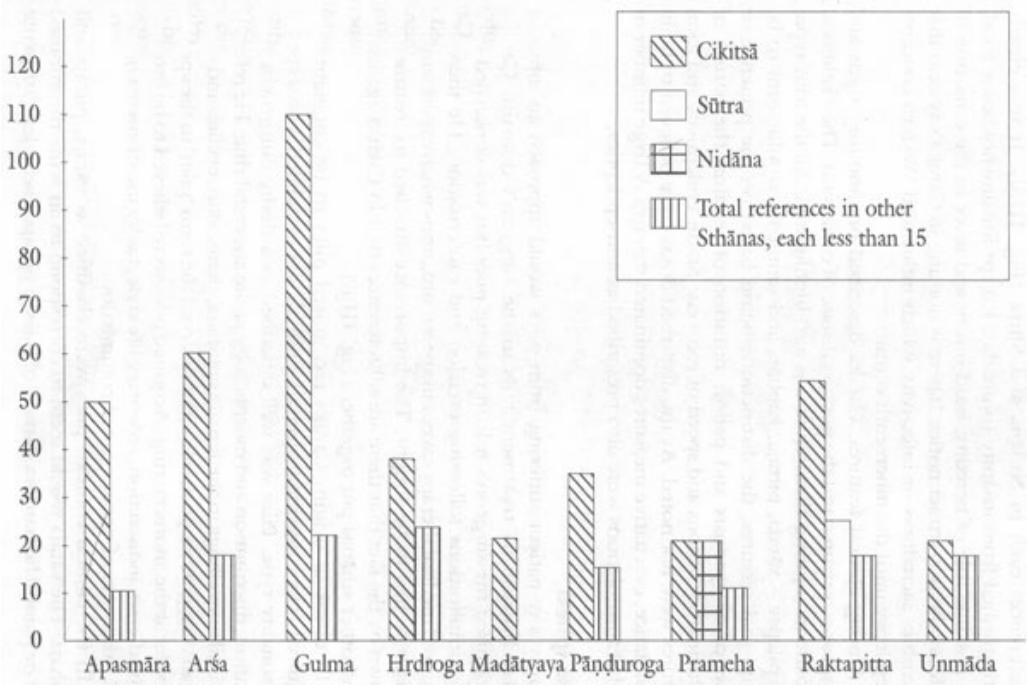


Fig.III.ii References to non-infectious diseases

Caraka referred to prognosis which varied from easily cured to hard to cure. When the incurability of piles in patients with anasarca was mentioned, Caraka was almost certainly referring to patients with congestive heart failure.

The treatment of piles was organised on the basis of whether they were bleeding (wet) or dry. It was highly elaborate and included a series of local measures, dietary regimen and numerous formulations which the physician was obliged to tailor to individual needs.

Gulma (gaseous lumps of the abdomen)

Gulma signified gaseous lumps caused by perturbed vāta in the abdomen. The perturbed vāta affected the other two doṣas and, because of its drying effect, produced blocks in various parts of the gut. Distension of the abdomen and the non-passage of flatus and feces were the main characteristics of gulma. Depending on the acuteness, pain, tenderness, heat, chronicity and other features of the lump, gulma was classified as vātaja, pittaja and kaphaja, The modern analogues for these would be lumps of acute, subacute (inflammatory) and chronic nature. The origin of the lumps was attributed to dietary indiscretions, suppression of natural urges and other lapses which are the cause of most disorders. The lump was observed to be localised to the pelvic, epigastric (near the heart) or umbilical regions or the flanks. Caraka also referred to 'internal' lumps in the epigastrium and 'external' lumps in the flanks, which turned into abscesses and had to be drained surgically. Gulma would therefore appear to be an omnibus term which primarily referred not only to intestinal obstruction but also included

other conditions relating to the abdominal wall and peritoneal cavity. It included pulsatile swellings of the uterus associated with amenorrhea, which called for treatment only after observation for ten months.

Gulma demanded a great deal of the physician's attention because there are 109 references to its treatment in Cikitsā. By contrast, the collateral references on causation and other associations of gulma are only 23 (Fig. III.ii). The treatment relied upon dietary regimen, lubrication, fomentation, evacuative measures, blood letting, surgical procedures and a variety of herbal formulations.

HṚDROGA

According to Caraka, heart disease originates from conventional causes such as dietary indiscretion, emotional disturbance, excessive exposure to sun and too much or too little activity. When vāta consequently gets perturbed, it enters the heart (vāyurāviśya hṛdayam)[18] to produce heart diseases. Vātaja disease is shown by tremors, cramps, stiffness, fainting, vacant look, and pain which worsens on eating. In pittaja heart disease, the patient experiences burning in the epigastrium, bitter taste and eructation, thirst, faintness and sweating. The kaphaja type is characterised by drowsiness, anorexia, feeling of weight in the heart region (aśmāvṛtam). Caraka quotes sages to indicate that heart disease is severe and can be cured only with great difficulty (kastasādhyam). In discussing heart disease caused by the perturbation of all three doṣas, Caraka refers to a gland (grandhi) which appears over the heart region and produces infection of the heart by organisms (kṛmi).

The heart is the abode of ojas which is quite different from blood. It has the colour of ghee and its loss is fatal. There are several references which give us a clue to the understanding and interpretation of heart disease in Caraka's time. A few illustrative examples are in order. The clinical features of heart disease are discolouration, fever, cough, fainting, dyspnea, hiccups, thirst, confusion, nausea and vomiting.[19] Diseases of moderate severity caused by perturbed kapha and pitta such as heart disease, cholera, constipation and fever should be treated with appetisers in the early stage of the disease.[20] Waters of rivers originating from the Vindhya and Sahya account for head and heart diseases, leprosy and filariasis.[21] Many other references which club heart disease with other diseases can be found. For example, garlic milk is beneficial in treating heart disease as well as vāta gulma, intermittent fever and abscess;[22] trāyamāna preparation is effective in pittaja heart disease and other disorders; harītaki formulation is useful for treating heart disease, jaundice, intermittent fever, leprosy and splenomegaly;[23] Kṛṣṇātreyā's navāyasa powder consisting of iron, trikaṭu, triphala etc., is effective for managing heart disease, piles, jaundice and leprosy.[24] Non-lubricant enema is beneficial in a variety of disorders including heart disease.[25] All these examples make it clear that therapy was not organ-based and was directed towards setting right the equilibrium of the doṣas. The heart happened to be one of the cluster of targets in Caraka's category of heart disease.

It is difficult to identify well-defined conditions such as congenital, rheumatic or coronary heart disease in Caraka's description of hṛdroga which would seem to include gastro-esophageal reflux, chest wall abscess and several other pathological conditions. There are descriptions that could be interpreted to indicate heart disease as understood today. For example, the stone-like sensation of heaviness on the anterior chest in kaphaja heart disease could be due to ischemic heart disease. However, an attempt to find one-to-one correlation between modern cardiac disorders and Caraka's description of heart disease is not particularly rewarding.

Caraka has 46 references to the treatment of heart disease in Cikitsā, Kalpa and Siddhi; and 13 in Sūtra and Nidāna, which address causation and other factors (Fig. III.ii). The brevity in references stands out in contrast to the length of the discourse on a malady such as gulma.

MADĀTYAYA (ALCOHOL-RELATED DISORDERS)

A chapter on alcoholism in the *Caraka Samhitā* is a reminder, if ever one was needed, of the antiquity of the problem. Numerous and varied as they are, wines (surā) share the common property of inducing narcosis (mada). Caraka discussed the wholesome use of wine on sacrificial, social and other occasions approvingly and pointed out that, in proper proportion, wine was no different from food by nature (yadivānnam) and could even be like nectar. It is impropriety in drinking wine that makes it dangerous. A large number of wines were listed and their suitability for different occasions and body constitutions described.

The intoxicating effect of alcohol was attributed to its entry into the heart and the neutralisation of the ten properties of ojas by its own complement of ten properties. As the mind is dependent on ojas (tadāśrayam), intoxication or narcosis could be expected to follow. There is no mention of the brain in the context of narcosis. The three stages of narcosis were clearly recognised and were attributed the degree of disturbance of ojas by alcohol. In the final stage, excessive drinking results in unconsciousness. While appreciative of the benefits of wine, Caraka wondered how any levelheaded person could allow himself to take the slippery road to ruin and death beyond the second stage of enjoyment.26 Uncontrolled drinking drew the victim to a state when he was no longer capable of discrimination and became an object of pity and contempt. In enjoying wine, the wise person would not lose reason (yukti) and bear in mind the role of many other factors such as age, time, good, strength and mental state. Caraka's favourable attitude to wine drinking is marked by a good deal of caution.

Alcoholic disorders were classified as vātaja, pittaja or kaphaja in type, each having characteristic symptoms. An interesting approach to detoxifying a patient was the judicious and graduated administration of wine with rock salt, ginger and other substances. Dietary regimen, herbal formulations and evacuative measures were recommended for the management of vātaja, pittaja and kaphaja types of intoxication. Cikitsā contains 21 references to the treatment of alcoholic disorders against a solitary reference in Sūtra to the suitability of grapes and other fruits for the addicted (Fig. III.ii). For all the joys of wine and the meticulous details of detoxification, Caraka concluded his chapter by observing that those who stayed away from all forms of alcohol and kept their senses under control would escape mental or physical ailments.

Pā ṇḍuroga (disorders of pallor)

Caraka's concept of pāṇḍuroga covers not only iron-deficiency anemia which stands out by the reference to patients eating earth and its association with abdominal disorders (udara) but also other anemias and jaundice (kāmalā). All types of pallor were believed to be caused by disturbed doṣas - pitta in particular - assailing the dhātus which in turn, became heavy and unstuck. The doṣas were perturbed by dietary errors and indiscretion, physical and sexual activity when the previous meal had not been digested, day sleep, faulty use of evacuative therapy and other perceived mistakes in lifestyle. Eating earth was classified as a distinct form of pāṇḍuroga. Jaundice and obstructive

jaundice were also grouped under pāṇḍuroga.

The principles of treatment included initial lubricant therapy followed by evacuative procedures. Dietary regimen and specific herbal preparations were recommended for each form of pāṇḍuroga and iron rust was used to supplement several of the formulations. The improvement of anemia (mainly nutritional anemia) was sought by evacuative measures, rich diet and herbal formulations including iron. The large number of herbal preparations recommended for treating jaundice remains to be investigated fully.

The chapter on pāṇḍuroga contains 43 references to treatment in Cikitsā, Kalpa and Siddhi Sthānas, and 6 references on other aspects of the disorder in Sūtra and Nidāna (Fig. Ill.ii). As in most branches of medicine, therapeutic action was always ahead of the understanding of a disease in Caraka's time. This is not untrue even in today's context.

Prameha (polyurias)

Prameha is commonly understood to mean diabetes mellitus which does indeed dominate Caraka's discussion on the disorder. However, prameha, according to Caraka, includes other urinary disorders as well. Among the three basic types of prameha - vātaja, pittaja and kaphaja - there are several subtypes which do not appear to be diabetes mellitus. For example, the presence of gravel-like particles in urine (sikatāmeha), difficulty in passing and slow passage of urine (śanair meha) in the kaphaja category are more likely to be associated with urolithiasis or enlarged prostate than with diabetes mellitus; black (kāla meha) and yellow urine (hāridra meha) in the pittaja type would probably suggest black water fever or jaundice; excessive urination like an elephant (hastī meha) in the vātaja variety could well be diabetes insipidus.

The causative significance of heredity, obesity and lack of physical activity; clinical features such as thirst and dryness of mouth; peculiar odour; burning sensation or lack of sensation in the hands and feet; and the onset of boils received such extensive notice that the references (Fig. Ill.ii) to causation, general and clinical features of prameha (27) exceeded those in relation to treatment in Cikitsā and Siddhi (24). The treatment laid great stress on the regulation of diet, pacificatory (śamana) and evacuative (śodhana) measures and herbal formulations for each type of prameha. The management of the obese and lean patients was specified as the approach differed from each other, and the need for surgical assistance in treating suppuration was indicated. Skin care, adequate hydration and physical activity also figured in the general measures.

Rakta pitta (bleeding disorders)

Rakta pitta indicates bleeding disorders. The bleeding could be from the orifices in the head or through the urinary or anal passages. Bleeding from the upper end is curable whereas that through the lower end is only manageable. If bleeding is generalised and occurs from all orifices, the outlook is dismal. The disorder arises from the perturbation of pitta by gross dietary indiscretion and pitta in turn, entering the blood stream. The resulting expansion and congestion in the blood channels block the blood channels arising from the liver and spleen and causes bleeding episodes. The connection between the liver and spleen and gastrointestinal bleeding had obviously been noted by Caraka. The bleeding was classified as vātaja, pittaja and kaphaja, based on the direction of bleeding. In vātaja, bleeding occurred through the anal and urethral orifices; bleeding would occur in either direction and be associated with body discolouration (particularly yellow) in the pittaja variety. The kaphaja type manifested as bleeding through ear, nose, eyes and mouth.

Management was calibrated on the basis of the severity of bleeding. If bleeding was mild and mixed with much food material, overvigorous treatment was not recommended; various types of non-irritant drinks, juices of fruits, soups and gruels would suffice. If the condition was more severe, evacuative measures (śodhana) were obligatory. The principle that governed the choice of a particular measure was that the evacuation had to be effected in the direction opposed to that of bleeding. For example, a patient with bleeding from the head would be purged whereas another with bleeding from the rectum would be given emetics. These measures were always combined with a careful dietary regimen and the intake of a variety of formulations. Cooling measures such as bath and enema, inhalation of medicated smoke and psychologic support were also part of the therapeutic regimen.

Rakta pitta seems to refer primarily to gastrointestinal bleeding or epistaxis, where the infective component is minimal and the derangement of liver, blood and systemic functions is dominant. For bleeding that is infective in origin such as hemoptysis in pulmonary tuberculosis, the recommended measures were different. There are 62 references to the treatment of rakta pitta in Cikitsā, Kalpa and Siddhi; 8 to causes and classification in Nidāna; and 24 of a general nature in Sūtra. A lone reference in Indriya refers to fearful visions that could precede the bleeding episodes (Fig. III.ii).

Unmāda (insanity)

Disturbed doṣas, singly or in combination, were believed to be the immediate cause of insanity. The disturbance was brought about by improper diet, practice of abnormal body postures, severe mental agitation and other events which would disturb the mind and intellect and perturb doṣas. The perturbed doṣas would target the heart and block the channels which are the conduits of the mind. This was the accepted mechanism of the genesis of insanity. While the three types of insanity - vātaja, pittaja and kaphaja - were distinct from each other, sannipāta was a mixed type with features of all the doṣas.

From a contemporary viewpoint, the premonitory signs and symptoms of insanity in the *Caraka Samhitā* such as the feeling of emptiness in the head, anxious eyes and ringing in the ears are suggestive of panic disorder or the beginning of a depressive episode. The complete picture of vātaja insanity points towards a manic episode or catatonic schizophrenia. Together, premonitory and full-blown features could also indicate a bipolar affective disorder.

The pittaja type of insanity resembles catatonic schizophrenia even though some of the clinical features are also seen in manic disorders. The yellowish or greenish hue of the eyes, which is a hallmark of pittaja disorders, raises the possibility of hepatic encephalopathy.

Kaphaja insanity with its distinct features suggests catatonic schizophrenia or residual schizophrenia. The sannipāta insanity combines the features of the three disturbed doṣas to such an extent that a process of identification is akin to shooting a moving target. Its clinical outlook is poor.

The fifth type of insanity is external in origin and basically different from the doṣa—induced forms of the disorder in its causation, clinical features and therapy. Some scholars attribute the cause of this form of insanity to karma, but Ātreya adhered to the view that the cause is traceable to imprudent conduct. Those who delight in slighting or mocking gods, saints and teachers and indulge in cruel acts succeed in hurting their own self, which is the first step on the road to insanity. The rest of the slippery journey is facilitated by gods in psychological moments and locations. Examples of these would be the first moment when a person succumbs to sinful temptations, and being in the vicinity of a

cremation ground at night. In this type of insanity, the patient would show super-human strength and unusual tastes, aptitudes, likes and dislikes and other features, suggesting the subtle entry of spirits and demigods. Some of the behavioural traits of this type of insanity would be regarded at the present time as the manifestation of a personality disorder. The invisible entry of demons, demigods and other spirits which were believed to enter the patient unseen, would be similarly believed to be evidence of a trance or a possession disorder.

Caraka Samhitā makes 20 references to the treatment of insanity in Cikitsa and one reference in the Siddhi. Lubricant therapy, fomentation, evacuative measures, psychological support, isolation and physical restraint, administration of herbal formulations, whipping or scalding in certain situations, and several other measures were recommended. When seizures were associated with certain types of insanity, they had to be managed appropriately. In the externally caused insanity, chanting of mantras and religious rituals including the worship of Śiva and other measures of daivavyapāśraya were appropriate because harsh steps had no place in its treatment.

There are 11 references on causation in Nidāna and 3 on prognosis in Indriya (Fig. III.ii).

DISCUSSION

The extent of discussion of a disease and the number of references in a standard medical manual form a reliable guide to its contemporary importance in clinical practice. Against this background, Figs. III.i, III.ii show the epidemiologic scene of northwest India in Caraka's period through the mist of twenty centuries. The diseases indicated in the figures are no more than illustrative of the infectious and non-infectious groups which are readily recognisable in the twenty-first century. In terms of epidemiology, a society passes, over time, from an age when infectious diseases cause the heaviest mortality and morbidity to another when infections decline and non-infectious diseases take over as the major killers. The change from one phase to the other is known as the epidemiologic transition.

In Fig. III.i, which relates to infectious diseases and infected conditions, fevers of all kinds loom large, claiming a total of 430 references. The fevers cover many conditions which correspond to malaria, typhoid fever and others which were undoubtedly the gravest medical problem in Caraka's time. Tuberculosis ranks next with hundred and thirty references, followed by sores and ulcers (87), digestive disorders (84), leprosy and other skin ailments (64), cellulitis (55), cholera (22) and abscesses (11). Diarrheal diseases were obviously common but cholera, in the form of viṣūcika, was not. It is possible that some diarrheal diseases were in fact cholera; or that cholera was not, in fact, a major health problem in northwest India. A more surprising finding is that smallpox (not shown in Table IIIA) claims no more than two references! Similarly, bubonic plague is not recognizable in Caraka's descriptions. Even though glandular enlargement is mentioned in several contexts there is no mention of an acute adenopathy with fever, severe systemic illness, infectivity and high mortality.

In Fig. III.ii relating to non-infectious disorders, gulma or gaseous lumps of the abdomen leads the list with 132 references. It is possible that gaseous lumps were caused by infections such as tuberculosis. But, by and large, gaseous lumps are not infective and represent a mechanical condition of the gut with varying degrees of obstruction. This is followed by gastrointestinal bleeding (95), piles (77), epilepsy (60), heart disorders (59), polyurias (51) pallor (49), insanity (35) and alcoholic disorders (22). The total number of references in Fig. Ill.ii is 580 against the total of 888 (including two of masūrika) in Fig. III.i, suggesting that infections were far more common and constituted a more serious medical problem than non-infectious conditions in Caraka's age.

Another conspicuous finding is that with each disease (except for viṣūcika, vidradhi and pramēha), the references to treatment under Cikitsā, Kalpa and Siddhi dwarf the other references relating to causation, clinical features, classification and prognosis. In other words, treatment received the higher priority of physicians who were obliged then, as now, to act before a disease is fully understood in terms of etiology, pathogenesis and natural history.

WHY STUDY DISEASE BURDENS OF THE PAST?

A study of the burden of diseases in the *Caraka Samhitā* is rewarding not only for the practising āyurvedic physicians but also for a modern investigator who screens the old medicinal plants for new chemical entities. The present exercise is often a 'hit or miss' because it seeks to study poorly known plants that had been used long ago for disorders that are even less known today. If the ancient disorders could be identified in contemporary terms or modern disorders discovered in ancient descriptions, the search for new chemical entities and potential drugs from the old plants would undoubtedly become better focussed.

The study of the epidemiologic picture in Caraka's period is of no less interest to the student of medical history. Smallpox, cholera and bubonic plague which terrorised populations in living memory do not seem to have had epidemic proportions in Caraka's time. Many fevers such as sannipāta (typhoid) ivhich were dreaded then are feared no more. Unchecked by the passage of time, tuberculosis and malaria continue their destructive work in our time. Reasonably good concordance can be found between several old and new conditions such as rankhaka (cavernous sinus thrombosis), ardhāvabhedaka (migraine) and suryāvarta (sinus headache). The survey would also bring up clinical conditions that received attention long ago, but are no longer easy or possible to identify. An example is the syndrome of numb and immobile thighs (ūrastambha) which was regarded as incurable by Caraka except in the early stage. What could have been the condition when the patient lost control over his legs (which became numb, swollen and immobile)? Evacuative measures, lauded elsewhere, were forbidden in treating ūrustambha. In the early stages, treatment sought to dry up and reduce the girth of the legs by the administration of formulations. As physical exercises such as swimming and walking over gravel were said to reduce the disability, ūrustambha was obviously not paraplegia. Could it have been phlegmasia alba dolens or 'white leg' which used to be seen occasionally in the early part of the twentieth century but has virtually disappeared? As phlegmasia alba dolens resulted from ilio-femoral vein thrombosis - often septic - what could have caused a similar disorder in the remote past? An equally interesting observation is the absence of the description of severe malnutrition - not emaciation due to diseases or iron deficiency anemia - in the *Caraka Samhitā*.

IV *Doctrines and Concepts*

Caraka Samhitā harks back to a conference of sages in a Himālayan valley, where the topic of discussion was the mounting burden of illness and suffering in the world. Relief, if not freedom, from suffering has been an ideal since ancient times when many vedic hymns had sought happiness and deliverance from misery. The Sānkhya Sūtra clearly states that the ultimate objective of life is freedom from suffering, which is alien to human nature (atra trividhadukhāthyantha nivṛttiratyantha puruṣārtha). The suffering was threefold. It could result from illness caused by perturbed doṣas (ādhyātmika); it could be a product of external events such as storms or floods (ādhibhautika); or it could be a consequence of fate or the wrath of gods (ādhidaivika). Deliverance from suffering that dominated the sages' conference was, however, not the sole pursuit of āyurveda which sought, according to Caraka, to embrace life happy and unhappy, wholesome and unwholesome. The āyurvedic canvas, vast as it was, gave preeminence to the stream of interactions between the world within and without the human body. To sustain so grand a theme, a strong philosophical foundation had to be laid, for which āyurveda turned to the ancient quarries of sānkhya, nyāya and vaiśeṣika among the six systems of Indian philosophy. The philosophical base stood out for two central doctrines - pañcabhūta and tridoṣa - which broadly relate to structure and function. While the homology between the structural materials within the body and outside, in the physical world, is the theme of the pañcabhūta doctrine, the functional equilibrium inside the body is explained by tridoṣa. Two subsidiary themes - ṛtucaryā and vegas - deal with the harmonisation of human life with time and place, and the functional significance of bodily urges.

FIVE CONSTITUENTS OF MATTER (PAÑCABHūTA)

The physical world is accessible to us only through the five senses -sight, hearing, smell, taste and touch, which are located in the eye, ear, nose, tongue and skin. Each sense takes note of its object by the quality (guṇa) specific to it; the eye cannot hear any more than the ear can see. As properties have no independent existence and must be inherent in objects, it would follow that there are five elements (bhūtas) corresponding to the five sensations. The substances (dravyas) we come across in everyday experience are made of the five objects or bhūtās. Each bhūta is characterised by a specific quality; ether (ākāśa) by sound, air (vāyu) by touch, fire (agni) by light, water (āp) by taste, and earth (pṛthvi) by smell. Bhūtas are never perceived in their pure state because our daily experience testifies that substances possess many qualities, suggesting that they consist of more than one bhūta.

There are two other notable observations in relation to the five bhūtas. Their density increases progressively in the series from ether to earth. Secondly, each succeeding bhūta is characterised not only by its own specific quality but also by its predecessor's. To this extent, the specificity is diluted. Thus, ether has the quality of sound alone because it has no preceding bhūta. Air which follows has its own quality of touch, but also sound. This process of adding qualities progresses all the way to the

fifth bhūta earth, which possesses the qualities of all the five bhūtas. The progressive addition of qualities is an index of the progressive addition or combination of the respective bhūtas. The processes whereby a bhūta combines with other bhūtas is called quinquennial action (pañcīkaraṇa). It is this action which leads to the mahābhūtas which are perceivable by the senses. Substances which constitute food, drink and medication consist of the five mahābhūtas. The quinquennial action is evolutionary from ether to earth and has varying speed from time to time and from substance to substance. No wonder the manifestations of the five elements as substances show infinite variety. Evidently pañcabhūtas are not the elements of the periodic table.

The homology of the five elements in food and medication on the one hand and in the body constituents on the other, has profound implications in the practice of medicine. Disorders of the body are the manifestations of perturbations in the equilibrium of body constituents including doṣas. Perturbation involves the increase or decrease of dhātus, which are restored to the normal range by administering substances with qualities opposed to those of the relevant dhātus and doṣas. This would be hardly possible in the absence of the homology between the body and the administered substances in terms of their composition.

CARAKA AND PHILOSOPHICAL SYSTEMS

Caraka was economic in the use of words, theories and procedures. The sānkhya concept of the evolution of matter postulated a series starting with an undifferentiated mahat and ending in bhūtas including such intermediate stages as ahamkāra and tanmātras. While accepting the sānkhya concept of evolution, Caraka however recognised only a collective and undifferentiated entity (avyakta) as the predecessor of bhūtas and dispensed with the other stages. He traced the evolution of matter sequentially from avyakta to ether, air, fire, water and earth. His preference for economy is evident again in relation to the grouping of qualities of substances. Even though he gives a list of the categories of vaiśesika including numerous qualities, he focuses attention only on twenty physical qualities. Even here, his references largely, if not wholly, relate to ten physical properties such as heavy/light and hot/cold which are indispensable for the practice of āyurveda. As Das Gupta noted, Caraka's gurvadi list does not figure in the Vaiśeṣika Sūtras and his parādi list ending in prayatnā receives scant attention elsewhere in the Samhitā. Nor does Caraka hesitate to alter the meanings of certain vaiśeṣika qualities. For example, the abstract qualities of'para' and 'aparā' of vaiśesika are used in reference to locale, climate etc to denote what are good and bad for the maintenance of health. The logical term 'yukti' is employed for the choice of appropriate medications for diseases. Sāmānya and viśesa which are class concepts in vaiśesika become similar and dissimilar characteristics in Caraka's view. This is of supreme importance, of course, for āyurvedic therapy which operates on the principle that substances such as food and medications with similar qualities would cause the growth or increase of body tissues whereas those with dissimilar qualities would produce decline or decrease. Caraka took a commonsense view in the reclassification and reinterpretation of philosophic categories and terms, the key being their practical utility for medical applications.

TASTE AS A CHEMICAL INDICATOR

Like substances make for growth and opposites promote breakdown. But how are these changes brought about? The answer lies in the qualities that characterise all substances. Apart from the group of twenty physical qualities such as heavy and light, there are four others which contribute to producing various effects in the body. These are taste, potency, post-digestive taste and specific

effective action. Of these, taste has supreme importance - even post-digestive taste is the same property in another mode. Taste is the equivalent of a chemical means for classifying substances and their effects on the tissues and doṣas. In this sense, the tongue is a chemical sensor. There are six tastes - sweet, sour, salty, bitter, pungent and astringent but each has subdivisions and numerous combinations. The grades in the range of a single taste and its combinations with other tastes were regarded as markers of the relative composition of bhūtas in a substance. Thus sweet taste suggests the dominance of earth and water whereas sour is suggestive of fire and earth. These were however postulates on which there was no consensus among authorities such as Caraka and Suṣruta whose views were based on their experience and inference. Taste, as we saw earlier, is a quality of water; the basic qualities such as smell and sound of the other bhūtas did not receive the same attention because they were regarded as unimportant in indicating the composition of substances. Taste as a quality of water enjoyed even scriptural authority.

The next important property is potency, the nature of which was again a subject of debate. It was classified generally as hot or cold on the basis of intensity that could vary with time and circumstances. Articles of food being regarded by common people as hot and cold independent of temperature is a reminder of how deeply rooted this belief is. Vipāka is the taste acquired by a substance following its digestion in the stomach. According to Caraka, the tastes in vipāka are reduced to sweet, acid and hot. Specific effective action accounts for effects which cannot be explained on the basis of taste, potency and post-digestive taste of a substance. Specific effective action is powerful and would prevail over the effects produced by other properties. Its power verges on the mysterious and could be seen in action when a powerful poison is neutralised, intelligence is enhanced or iron is drawn by a magnet. Specific effective action resembles the power attributed to amulets in the Atharva Veda. The mechanism of specific effective action belongs more to the domain of psychoneuropharmacology than to therapeutics.

THE MIND AND THE SELF

Where does the doctrine of the five elements leave the mind and self? Calraka regards mind (manas) as a separate sense (indriya) with its object (artha) defined as thought. It is however more than other senses and is the conductor of the symphony of senses. In its absence or distraction, pleasure and pain are not felt nor other sensory experiences registered. Soul or self, on the other hand, is the witness and ultimate subject of all conscious activities. Pleasure, pain and all other sensory experiences are registered by the mind and presented to the self which, by its presence, causes the mind to feel pleasure or pain, think objects of thought or initiate action. According to Caraka, the sense object-senses-mind-self complex is the integrative basis of all sensory experience, motor action and life itself. The mind, self and body form a tripod which supports life. Take away one, life becomes unstable if not impossible. Āyurveda concerns itself with the mind and body and other products of the five elements, such as food and drugs (bhūtēbhyo hi param yasmat nāsti cintā cikitsite). Āyurveda does not concern itself deeply with the self or questions such as the unity or multiplicity of self; these are only mentioned in passing. Once again, Caraka's adoption of philosophical ideas is governed by the minimum needs of medicine.

THE THREE DOṢAS (TRIDOṢA)

The representation of the three doṣas (vāta, pitta and kapha) as the interplay of wind, bile and phlegm does little justice to the doctrine which dominates the theory and practice of āyurveda. Tridoṣa was

anticipated in the Atharva Veda, which referred to diseases caused by water, wind and fire. As kapha mainly consists of water, wind remains unchanged and pitta is fiery in action, the vedic provenance of tridoṣa should be obvious. The doctrine evolved over centuries and attained the present form through debate among schools whose views and interpretations differed. Caraka, Suṣruta and Vāgbhata, for example, do not agree on every aspect of the doctrine.

Caraka makes it clear that doṣas are not concepts or theoretical entities but real substances. The seven dhātus which constitute the body decay all the time and receive replenishment through food. Upon digestion food releases two products, both of which are regarded as dhātus. Prasāda dhātu contributes to the building and repair of the seven dhātus; maladhātus which are commonly taken to mean sweat, urine, feces etc, also include vāta, pitta and kapha and remain essential so long as they maintain due proportion with reference to themselves as well as to the other dhātus. When vāta, pitta or kapha become deficient or excessive in quantity (perturbed or prakupita) they become doṣas which unsettle the dhātus in a variety of disorders. As the victims of disturbance, dhātus are called dū ṣyas.

Doṣas have preferential abodes even though they move all over the body through ubiquitous channels. Vāta is located in the pelvis, pitta in the gut between the stomach and the large bowel, and kapha in the stomach, chest and head. They have specific properties which differ from each other and determine their actions on the dhātus in health and disease. For example, vāta is dry, cold, light, subtle and mobile; pitta is hot, sharp, light and slightly oily; kapha is cold, heavy, firm, slimy and soft. When the proportion is normal, vāta sustains all movements, transmission of sensations, transport of fluids and all kinds of physical and mental functions including happiness, which sustain life. Pitta supports digestion, enables vision and accounts for anger, joy and other emotions. Kapha is responsible for firmness, bulk, idleness, impotence and ignorance. According to Susruta, the etymology of vāta, pitta and kapha suggests their functions: 'va' means to move or decay, 'tap' to heat and 'phal' to fructify or grow in bulk. The properties and functions attributed to vāta, pitta and kapha would suit all organic substances that have respectively to do with movement and breakdown, digestion in the gut and the dhātus, and the building up of the dhātus. In other words, the balance of the substances that constitute vāta, pitta and kapha is equivalent to the balance of their distinct functions.

Although doṣas have several specific properties, they may not increase or decrease uniformly in proportion to the rise and fall in the level of doṣas. As each property could induce effects on the body, the perturbations of doṣas could produce innumerable effects or disorders even though the doṣas remain only three. It would also appear that doṣas are not homogenous in so far as the property of a given doṣa could produce effects independent of the effects caused by other properties. There are 80, 40 and 20 prominent disorders of the vātaja, pittaja and kaphaja types, respectively.

What is the relationship of doṣas to bhūtas?' Doṣas are, in fact, no different from other dhātus which are derived from the five elements. Like other dhātus, they carry one element as the main and other elements as secondary constituents. Thus vāta is based on vayu, pitta on agni and kapha on āp. So long as they are in due proportion, they are essential maladhātus; they become doṣas when the proportion is seriously disturbed.

DOṢASĀMYA AND DHĀTUSĀMYA

The body consists of dhātus and malas, doṣas being a version of malas. When dhātus and malas exist in due proportion, a person enjoys dhātusāmya (balance of dhātus) or good health. The opposite situation is dhātuvaisamya when the proportion of dhātus and malas becomes insufficient or

excessive. It is important to note that malas too must be in due proportion to maintain dhātusāmya because they are dhātus. Vāta, pitta and kapha differ, however, from other maladhātus in so far as they are more powerful and their perturbation would upset the balance among dhātus. The importance of tridoṣa grew so greatly over centuries that Vāgbhata even identified doṣasāmya and doṣavaisamya as the basis of health and disease.

Doṣasāmya is to āyurveda what the constant internal environment is to modern physiology.

RECOGNISING DISTURBED DOṢAS IN DISORDERS

There are 62 ways in which disturbed doṣas produce disorders, singly or by possible combinations. The properties of vāta, pitta and kapha are reflected in the effects they produce on being perturbed. Indeed, the effects point to the perturbed doṣa in making a clinical diagnosis, without which no treatment can. begin. An experienced physician would recognise the perturbation of vāta in varied features such as pain and stiffness in legs, lameness, prolapse of rectum, stiffness in the back, palpitation, hoarse voice, loose teeth, hearing and eye disorders, paralysis of various kinds, hiccup and dyspnea and mental instability. Among these varied features he would detect the disturbed properties of vāta, including roughness, coldness, lightness, motion, instability *etc*.[1] Perturbed pitta is marked by clinical features such as burning sensation, hyperacidity, fever, excessive sweating, internal bleeding, jaundice, blue colouration, inflammation and fainting. Among these features, the expert physician would recognise the properties of pitta such as heat, sharpness, fluidity, sour taste and discolouration.[2] The clinical features of perturbed kapha include drowsiness, sensation of heaviness and coldness, salivation, mucus discharge, copious expectoration, swelling in the neck, urticaria and pallor. What give the clue of disturbed kapha to the physician in these disorders are the properties of kapha such as lubricity, coldness, heaviness, sweetness, sliminess and softness.[3] It is clear that the identification of the disturbance of a doṣa from the observation of clinical features is made by a process of inference, which comes only with clinical experience. Fixing a label on a disease, no matter what the cause, is less important than knowing the exact nature of the disturbed doṣas. After all, a cause cannot produce disease except by disturbing doṣasāmya, and if doṣasāmya is restored the cause would take care of itself.

DOṢAS OF THE MIND

Tridoṣas primarily work upon the body but rajas and tamas would upset the mind. Caraka recognised that the body and mind echoed each other in health and disease and that the final cause of most illnesses was imprudent conduct, which was rooted in the mind. Apart from the effects of rajas and tamas, the tridoṣas too are capable of destabilising the mind because their properties include psychological and intellectual traits. Thus the psychosomatic basis of illness finds major emphasis in āyurveda.

DOṢAS AND CONSTITUTION

The constitution and temperament of individuals were of great interest to the Caraka school. As the body and mind are ultimately made up of elements, it was reasonable to suppose that their attributes would be reflected in varying measure in individual constitutions. Some may escape illness even with a wholly faulty regimen while others may fall victim to the mildest indiscretions. In between are two constitutions of intermediate strength. The four responses are caused by the varied strength of

digestive fires, which characterise a constitution from birth. Apart from the principal fire in the stomach, fires specific to each dhātu are constantly active in the body. Fires in the body belong to the category of fire among the five elements which constitute nature.

The constitutions with four differing responses and corresponding strengths of digestive fires are accompanied by specific profiles of doṣas. Caraka states that the three doṣas are in balance in a constitution when the fires in the stomach and the dhātus are in equilibrium. In a so-called vātala constitution, the fires become irregular, in pittala, the fires are intensified, and the ślēṣmala constitution is marked by subdued fires. In other words, the doṣa constitution has more to do with the status of digestive fires and less with doṣas. The connection between the doṣa constitution and doṣas is, at best, indirect; nor does Caraka identify the three doṣas with rajas, sattva and tamas, as some other authorities have done.

AN UNORTHODOX VIEW OF DOṢAS

The widespread and powerful effects of doṣas could suggest another explanation for the tridoṣa doctrine. According to this unorthodox view, vāta, pitta and kapha could represent three families of receptors which are distributed across the body and are activated by specific molecular patterns or other specific stimuli in the internal or external environment. Once activated, a cascade of cellular signals would follow, affecting all kinds of cells, and no response would remain 'purely local' in so far as the receptors are generalised in distribution. The cellular signals could lead to the release of a wide range of substances such as cytokines and initiate inflammatory and other phenomena. The activation of vāta, pitta and kapha receptors could also send wake-up signals to the immune system and trigger another set of responses.

According to this view, the characterisation of the biological and chemical agents of bacterial, viral, herbal and other origin which activate the respective receptors would hold the key to understanding the biochemical correlates of vāta, pitta and kapha.

A REGIMEN DICTATED BY SEASONS (ṚTUCARYĀ)

The pancabhūta doctrine affirmed that all substances which constitute the body are derived from the five elements that compose the world around us. The tridoṣa concept went on to interpret the equilibrium of the dhātus and doṣas of the body as the functional basis for a healthy life, if not for life itself. But the world, and the living body no less, are in a state of constant flux (nityaga) which mandates adaptation to change as the essential condition of life. The adaptive process does not disturb the equilibrium.

The eternal cycle of change in the physical world relates to the six seasons which are marked by cold, heat and rain. Their intensity and duration vary among places and periods, and call for reciprocal adjustments on the part of the body. Some of the adjustments occur as natural adaptations such as sweating and thirst during heat and shivering in the cold. Ṛtucaryā seeks to supplement the natural adaptation by conscious alteration in conduct. The rules of conduct are essentially based on the role of the body fluid which fluctuate in the body with changing seasons. They would determine the choice of food, drinks and level of physical activity to suit a given season.

WAXING AND WANING OF STRENGTH WITH SEASONS

The six seasons are grouped into two halves of a year. As a matter of convention, ādāna and visarga

are associated with the sun and moon as the symbols of heat and cold. The first half or ādāna represents lean months - composed of the passing winter (śiśira), spring (vasanta) and summer (grī ṣma), and the second half or visarga consists of generous months, of rain (varṣa), autumn (śarat) and winter (hemanta). During ādāna and visarga, life-giving waters are alternately drawn away from the earth and its creatures, and returned. Referring to clouds, had not Kālidāsa said that virtuous conduct ensures that whatever is taken away is returned (ādānam hi visargasya satām vārimucāmiva) ?

During ādāna which culminates in summer, the rising heat, dusty wind and drying rivers weaken the life of plants and animals and the bitter, astringent and pungent tastes dominate the rasa of the desiccated body (Fig. IV.i). During visarga, the clouds return to hide the sun, rains pour, and the earth and living creatures regain strength (Fig. IV.ii). During this phase, the rasa of the well-watered body is marked by the dominance of sour, salty and sweet tastes. The dominance of tastes in the rasa inevitably perturbs doṣas such as vāta during winter, kapha in spring, and pitta in autumn. According to the basic rule of āyurvedic pharmacology, the dominant tastes in ādāna and visarga must be countered by articles of food with opposite tastes in order to ensure healthy living. The same principle should guide the physician in the choice of drugs and diet for treating ailments which would be influenced by the seasons. As the seasonal change is gradual, food with opposite tastes and the level of physical activity must be tailored to suit the gradual change in seasons. Of course, a person's daily diet should feature all the six tastes; the opposite tastes mentioned during ādāna and visarga are meant only to be supplements. Thus ṛtucaryā prescribed appropriate forms of food, drinks, physical activity, medical procedures, relaxation and general behaviour to suit each of the six seasons. The transitional period was to be managed by a gradual change in the individual's conduct. The rules of ṛtucaryā were so elaborate that no more than some among the affluent could have probably complied with them in full!

ṚTUCARYĀ IN PRACTICE

Many of the rules of conduct prescribed by ṛtucaryā are logical. For example, a rich diet with plenty of sweet, sour and salty food, high level of physical activity, well-heated home and warm clothes, among many others, were recommended for winter; a light diet including fruits and juices with few salty, pungent and sour articles, modest physical activity, light clothes and sleeping in the open were regarded as appropriate for summer. Rains, while welcome, were noted to perturb doṣas because of the polluted water and steam rising from the earth. The recommendations for the rainy season included living in a higher storey whenever possible, using footwear, wearing clothes that had been smoked and the use of boiled and cooled water for drinking.

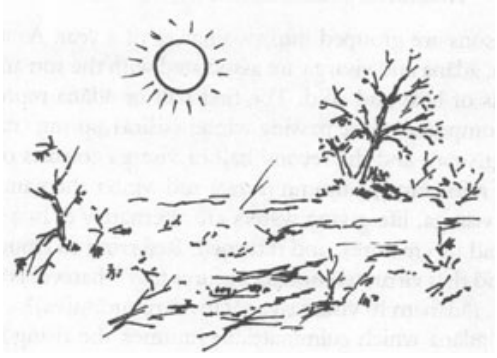


Fig. IV.i Ādāna: the lean half of the year

Fig.IV.ii Visarga: the generous half of the year

What is striking about the doctrine of ṛtucaryā is the attempt to observe fluctuations in the chemical composition of the body in response to seasonal changes, taste being the āyurvedic symbol for body chemistry. Secondly, it represents yet again the constant endeavour to restore a grand equilibrium of not only dhātus and doṣas but also of the body and the changing environment through dietary and other interventions.

NATURAL URGES (VEGAS)

Natural urges pertain to the body and the mind. The bodily urges are directed towards elimination (passing urine, stools, and flatus, ejaculation, vomiting, sneezing, eructation, shedding tears, yawning) and intake (eating, drinking). Bodily urges also include rapid breathing following exertion and sleeping. The urges of the mind, on the other hand, relate to thought, speech and action. Āyurveda attached extraordinary importance to natural urges and their suppression in the maintenance of health and the causation of disease.

URGES OF THE BODY

Suppression of natural urges features prominently and regularly among the causative factors of virtually all major disorders. It is difficult indeed to explain why the suppression of a particular urge (such as for sneezing or yawning) should give rise to a variety of systemic disorders. To understand the concept of vega, one is obliged to look beyond the suppression of individual urges and their putative consequences. The cardinal position of natural urges in relation to health and disease would hardly make sense unless viewed in the context of the āyurvedic principle of equilibrium.

Caraka emphasised more than once that health could be defined as the equilibrium of the constituents of the body. Vāgbhata went further and identified health with the equilibrium of doṣas. Apart from these, there are other equilibria that sustain the body. The equilibrium of digestive fires in the stomach and dhātus and ṛtusāmya which help the body adapt to changing seasons, are examples of life-sustaining equilibria. Health may well be looked upon as the sum total of all these equilibria.

SUPPRESSION OF URGES AS AN AGENT OF DISEQUILIBRIUM

As the dhātus and doṣas are ever active (because of the unceasing burning of the digestive fires), it is imperative that mechanisms are in place to supply fuel or raw materials for the digestive process and

to remove the waste products. Failure in either mechanism would upset the equilibrium of dhātus and doṣas and lead to systemic disturbances. If the physico-chemical entities in the body, no matter what they are, happen to exceed the norms, the excess must be let out through the appropriate openings in the body; if they fall short of the norms, they must be replenished (Fig. IV.iii). Tampering with this interchange deranges the balance. The suppression of natural urges tends to interfere with the exchange and should therefore be avoided.

The suppression of natural urges militates against equilibrium in another way. To sustain a state of equilibrium, uninterrupted movement of dhātus and doṣas through the ubiquitous network of channels is a basic requirement. If the flow through the channels is blocked, substances would accumulate upstream and deplete downstream, with a resultant breakdown in equilibrium. The grave consequences of the involuntary blockage of channels in disorders such as intestinal obstruction and retention of urine would have deeply impressed physicians of the time who would have expected similar consequences to follow the habitual and voluntary suppression of the urges to pass flatus and urine. This view is supported by Caraka's reference to the suppression of natural urges as the occupational hazard of groups such as palace officials and priests. As a result they suffer from various maladies.

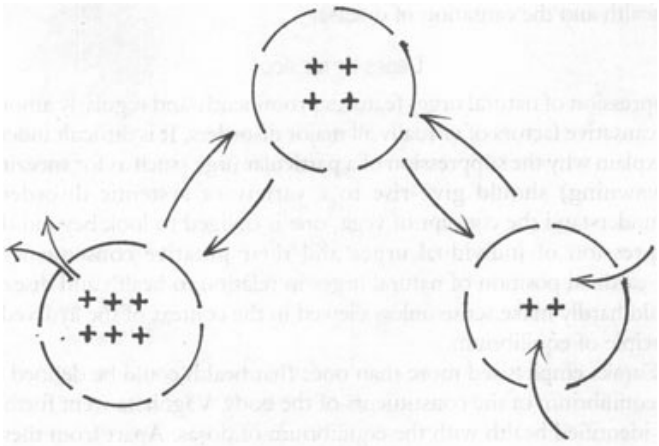


Fig. IV.III Non-suppresion of urges. Equilibrium is indicated by on imaginary physico-chemical quantity in the middle circle; any increase or decrease must be rectified by yielding to physical urges which permit egress or ingress through porous walls.

URGES OF THE MIND

The urges of the mind and their role in medicine are in sharp contrast to those of the body. In the mental domain, control, not necessarily suppression of the urges was the watchword for a sensible person. The misplaced urges that call for control would involve the processes of thought, speech and action. Failure to control urges such as greed, lying and violence is certain to cloud one's judgement and bring about imprudent conduct which underlies many a disorder.

It is true that the mind too moves through its channels and is seemingly ubiquitous in the body, but its urges and their management are qualitatively different from those of the body. While it is possible to refrain from suppressing the natural urges of the body with due care, perfect control of the mind is far from easy for the layperson. The control of mental urges is, however, possible as shown by the example of Ātreya who is projected by Caraka as the supreme role model for physicians.

VI *Procedures for Rejuvenation and Enhanced Virility (Rasāyana and Vājīkaraṇa)*

Caraka held world-renouncing sages in great veneration but recognised at the same time that their code of conduct would be too exacting for the people to follow. As an expert physician who had observed human conduct, the ever-changing contexts of life - happy and unhappy, wholesome and unwholesome, comic and tragic - impressed him deeply. He realised that a prescription for ideal conduct would be lost on people unless the ideal was tempered by viability. His approach was at once lively and compassionate, and nowhere is it more evident than in the two chapters on rejuvenation (rasāyana) and virile therapy (vājīkaraṇa). Here too he took a cue from several hymns of the Atharva Veda.

Caraka's introduction to rejuvenation was not without a touch of humour. The original patrons, according to him, were none other than holy men who had left their spartan life in the Himālayas for a life of ease and plenty in the plains only to become obese, inactive and infirm. Thereupon, they hastened back to the Himalayan habitat and received the formulas for rejuvenation from Indra! Lest anyone should mistake the procedure for taking a few tasty formulations, Caraka makes it clear that truthfulness, freedom from passions, self-control and other virtues are in reality the everlasting rejuvenants. He added that one seldom reaps the full benefits of rejuvenant therapy unless both body and mind are clean. Two methods were described, both sharing the use of numerous herbal formulations which often contained iron. The first method (kuṭīpraveśika) required the subject to remain inside a chamber in isolation, and seems to have been practised less often than the second method which was less rigorous and was carried out in open air (vātātapika). Harītaki and āmalakī dominated the herbal preparations which generally sought a life of good health for a hundred years. In the solitary reference to a lifespan of a thousand years for taking kevalāmalaka rasāyana, Caraka seems to have made a concession to a popular belief in his time.

The procedures and formulations for rejuvenant therapy bear testimony to the fact that people in general desired youthful life and sought to grow old without the infirmities of old age. The great emphasis placed on rejuvenant therapy contradicts the perception of Indians as a world-renouncing people haunted by fatalism. Caraka's description of rejuvenant and virile therapies tells a different story of sensuality and zest for life. In the present context when the problems of ageing have become a major concern in social and economic terms in many nations, Caraka's herbal formulations for rejuvenation demand a serious second look. There are experimental models already available for inducing DNA chain breaks and measuring the rate of repair. It has been shown that the rate of repair in the neonatal rat brain cells, for example, is faster than that of adult brain cells. A good question would be whether the compounds from Caraka's formulations would enhance the rate of repair of the DNA in the brain cells of adult rats. One could also design many other interesting experiments to

evaluate formulas for rejuvenant and virile therapies.

Virile therapy was designed to raise and sustain the potency and sexual prowess of a man to the level of that of a horse. Caraka recommended the use of aphrodisiacs to all men who sought offspring and sexual pleasure. A large number of formulations were mentioned, many of which were conspicuous by the inclusion of animal products. In his references to sexual activity, Caraka was not only forthright but even poetic, and totally lacking in prudishness.

VII *Medicinal Plants*

MEDICINAL PLANTS IN THE ATHARVA VEDA

Medicinal plants had a special place in the Indian tradition at all times. Hanumān's leap from the battlefield to the Himālayan valley to fetch four lifesaving plants was no more than the dramatic assertion of a tradition which had echoes in the Vedas and classical literature. The Atharva Veda contains numerous references to plants which were used for therapeutic purposes (Table Vll.i). The plants were then looked upon with reverence and believed to produce effects through supernatural action. Indeed, many vedic verses were addressed as invocations to medicinal plants. The Atharva Veda also prescribed the use of plants such as darbha, udumbara, śatāvarī and guggulu in the form of amulets for protection against disorders and misfortunes. The traditional reverence for medicinal plants echoes throughout *Caraka Samhitā*.

Caraka noted that animals turned to chosen plants during illness, suggesting thereby an instinctive basis for the search for herbal remedies. The scattered lore on plants among shepherds and forest dwellers were, according to him, the building blocks for constructing a medical formulary. It has been estimated that *Caraka Samhitā* contains over 1990 plant names including synonyms, of which 627 have been identified.[1] To be listed in a standard formulation, the medicinal plant had to be identified from among nature's vast collection; activity had to be located in the root, bark, flowers, fruits or other parts and products; processes (often elaborate) had to be developed for enhancing the therapeutic effect and neutralising the toxicity of any of the plant products; and the influence of the locale, seasons and time of the day on the activity of plants had to be determined. The effort in screening many hundreds of plants through so extensive a protocol is stupendous and remains one of the admirable legacies of āyurveda. The search for new chemical entities against target molecules of disease is a continuation, at a subtler level, of the traditional effort at screening plants for medical applications.

Examples of medicinal plants in Atharva Veda

Plant	**Applications**
Arka	Enhances virility
Arjuna	For hereditary diseases
Anjana	For inflammatory heart disease
Apāmārga	Cleanses the body

Udumbara	Promotes strength, improves fertility
Māṣaparṇī	Enhances virility
Kuṣṭha	Febrifuge
Bhṛngrāj	Improves complexion, promotes hair growth
Guggulu	Effective against vāta
Jīvanti	Promotes strength
Darbha	For snake bite
Daśamūla	Tonic following delivery
Pathyā	For treating injuries
Pippalī	Febrifuge: for vāta disorders
Pṛṣniparṇī	For piles, female genital disorders
Vacā	Antidote to poison
Bilva	Antidote to snake poison
Priyaṅgū	Febrifuge
Śalaparṇī	For diseases of cattle
Soma	Effective against all diseases
Dāruharidrā	Effective against pallor, jaundice

CLASSIFICATION

Medicinal plants were classified in various ways depending on the purpose. For example, the grouping vanaspati, vīrudh, vānaspatya and oṣadhi referred to plants yielding fruits, spreading shoots, giving flowers or fruits, and perishing after bearing fruit. From a pharmacological point of view, they were classified as those for settling or for eliminating perturbed doṣas. From a medical standpoint, plants could be grouped into those for fifty great decoctions that sought to address almost every problem in day-to-day practice. Caraka recognised the limitations of a classification which seeks to set limits on a vast collection, where limitless expansion is the rule. Nevertheless, he classified

medicinal plants to provide a vade mecum for the physicians of less than average intelligence in their day-to-day practice. He did not fail to point out that the grouping contained enough hidden suggestions for the quick-witted physician who was not afraid to use reason to extend the domain of the known.

MECHANISM OF ACTION

The practising physician was trained to identify the exact nature of the perturbation of doṣas in the great variety of disorders that he encountered. Indeed, this formed the core of his training and apprenticeship. Once the perturbation was known, the prescription of medication and diet with properties opposed to the perturbed doṣa was mandatory. Among all the properties, taste reigned supreme and the combination of tastes which perturbed or settled doṣas determined the choice of the appropriate plant formulation or diet for the patient. Other properties which were especially important were potency, post-digestive taste and specific effective action. Potency has two types, both influenced by the basic property of taste. Sweet, bitter and astringent tastes promote the 'cold' variety of potency (śīta) whereas salty, sour and hot tastes favour the 'hot' (uṣṇa) type. Similarly, the post-digestive taste of ingested food and drugs would be reduced to three (sweet, sour and hot) from the original six tastes. Prabhāva was the fourth property, which empowered a substance to produce specific effects in unthinkable, if not mysterious, ways. It is abundantly clear that the prescription of a course of treatment on these lines could be made only by a physician on the basis of long experience, reasoning and the use of common sense. Caraka disparaged physicians who practised medicine mechanically by the rules of the book without keen observation and critical reasoning.

PREPARATION OF FORMULATIONS

Caraka described in detail the methods for the preparation of formulations from medicinal plants. These were elaborate and involved staged processing. The standard preparation of a decoction consisted of boiling several vegetables slowly with sixteen parts of water and reducing it to one-fourth the volume. The decoction was strained through cloth and often mixed with the paste of a second group of plants. The decoction would then be mixed with salt, honey, sugar, oil, or ghee, and administered. The processing would seem to involve not only the extraction of effective therapeutic principles but also the neutralisation of the possible toxicity of some constituents. To make the formulations acceptable to patients with varying tastes and states of illness, they were prepared in 23 forms including powder, decoction, juice, drink, emulsion, gruel, paste, pills or medicated oils. The routes of administration were oral, nasal, rectal and dermal: the formulations could also be used as suppositories, irrigants on the head and other body parts, medicated smoke or hot bath *etc.* One interesting method used occasionally was making a small incision on the scalp and applying medication over it to produce general effects.

USE OF MEDICINAL PLANTS - ANCIENT AND MODERN APPROACHES

The principles of management of a fracture or dislocation or the repair of a defective nose or ear in the āyurvedic tradition differ little from those of modern medicine but they are fundamentally different in the medical treatment of diseases. Āyurvedic therapy seeks to restore the equilibrium of doṣas which had been disturbed by a variety of causes on the principle that the restoration of equilibrium would take care of the cause whatever that might be. While the role of causes (nidāna) was clearly recognised, they were believed incapable of producing disorders so long as they did not disturb the equilibrium of doṣas. In other words, causes could exist in the body or outside without necessarily

causing disease. This is understandable because the presence of pathogenic organisms such as those for tuberculosis or pneumonia in the body, for example, does not automatically cause disease. The specificity of causation which dominated the germ theory in the nineteenth century has little place in āyurveda which regards disorders as multifactorial in origin and multisystem in involvement, and which are always traceable to a disturbance in the equilibrium of doṣas. It would follow that the formulations designed to restore the equilibrium might not be active against a specific cause or alternatively, might work on more than one cause. Similarly, they would act on multiple organ systems. Guggulu, for example, has a place in the treatment of joint disorders and hyperlipidemias, not because it addresses specific problems in either condition but because it restores the balance of doṣas which are disturbed in both conditions.

Caraka's formulations for oral, nasal, dermal, rectal and other applications were based on hundreds of plants (these outnumbered the animal and mineral products used). The plants, most of which have been identified, constitute the principal means for medical intervention in āyurveda alongside the procedures for settling and eliminating disturbed doṣas. The herbal formulations in *Caraka Samhitā* include several designed by Kṛṣṇātreya and other physicians, and the wealth of alternative preparations does give the impression that they had been listed on the testimony of individual physicians who had found them safe and effective in practice. In other words, drug formulations in the *Samhitā* represented a large collective experience and formed the core of a national formulary in Caraka's time.

It is not often realised that medicinal plants continue to play an important role in the development of therapeutic agents today. At the global level it is estimated that 130 drugs are single chemical entities derived from higher plants or modified synthetically. Similarly, it is believed that 75-80 per cent of the world population (mainly in developing countries) depend on crude plant drug preparations for their health care needs. However, the yield of new chemical entities (NCE) as therapeutic agents from plants has been low. For example, between 1971 and 1990, over six hundred NCEs were released globally but the plant-based drugs formed less than [2] per cent of the total.2 The National Cancer Institute of US randomly screened over 1,80,000 plant extracts from 3,500 plant genera during a 20-25 year period without contributing a single drug to the market. Obviously, accessibility to a large library of compounds is essential for drug discovery from plants but the screening tends to become wasteful unless the numbers to be screened are reduced on a rational basis. It is in this context that the formulations mentioned in *Caraka Samhitā* assume special importance. It describes the clinical features of numerous disorders in terms of the disturbance of doṣas. If diseases as recognised and known today could be disengaged from among the ancient descriptions, one would know the precise formulations that had been prescribed for those diseases and be in a position to prepare a purposeful shortlist of plant extracts for screening. The opportunities for developing drugs for treating a variety of diseases (particularly degenerative diseases) from the wealth of āyurvedic formulations and individual plants are vast.

ANTI-DOṢA PLANTS

Caraka prescribed formulations to treat the disturbance of doṣas and restore equilibrium. His policy was not specific; if anything, it was holistic, if not cosmic. It is therefore intriguing that the plants in his formulations are found to contain activity against specific targets in the same biomedical context in which they had been originally used. The observations of Sukh Dev[3] on the neuropharmacologic

effects of several plants which had been listed by Caraka under the 'medhya' group (intellect-related) are a case in point. The anti-doṣa approach from the past and the anti-target strategy of the present are fundamentally different but they seem to converge as far as therapeutic efficacy is concerned.

Caraka did not classify plants on the basis of their activity against the perturbation of each of the three doṣas. However, a representative list on the anti-doṣa basis can be prepared from the plants mentioned by Caraka in order to examine whether each of the three groups has any specific and readily identifiable characteristics. In an exercise along these lines 48 plants with anti-vāta, 51 with anti-pitta and 93 with anti-kapha activity were examined. The listing of the families of plants in each group showed no coherent grouping and they were taxonomically highly diverse. However, in each of the anti-doṣa groups, each family contained more than one plant. Another feature found in the overall survey was that the largest number of plants in each group belonged to Leguminosae which claimed 13, 12 and 16 plants in the anti-vāta, anti-pitta and anti-kapha groups, respectively. There would seem to be no chemical characteristics either, which would give a definite pattern to the grouping of plants. No definite conclusions could therefore be drawn from the preliminary analysis of the groups of plants.[4]

The search for herbal compounds that may have useful activity is perhaps as old as pharmacology. What is new is the advent of powerful techniques in chemistry and biology, which enable the quick isolation, purification and characterisation of compounds and their evaluation against target-specific screens based on cell-based mechanisms. While this approach holds great promise for the discovery of NCEs that may become useful drugs, it totally ignores the āyurvedic basis for prescribing the herbal preparations in the first place. The intense search for the small has blinded us to the larger picture. Perhaps it would be rewarding to look for physico-chemical fingerprints that may distinguish the anti-doṣa groups of plants from each other and from plants that have few anti-doṣa effects. The fingerprints could be developed on the basis of a cluster of biological activities such as anti-oxidant, anti-neoplastic, anti-mitotic, anti-inflammatory and immunomodulatory. In this reverse approach may lie the key to the biochemical understanding of the perturbation of doṣas and a new kind of therapeutics. A taxonomic analysis is only a beginning, and would have to be expanded to include other tools of modern biology.

VIII *Food and Drink*

Since food and drink have as much therapeutic value as drugs in āyurveda, a physician was expected to possess a thorough understanding of their source, classification, nutritional merit, adverse effects and therapeutic role. A good physician had, in fact, to be a competent nutritionist and dietician as well. The items listed in the table below bear testimony to Caraka's extensive familiarity with food and drinks of varied sources, and provide us with an insight into the food habits of people in his period.

Class	Number of varieties*	Comment
1. Śūkadhānya (husked grains)	53	Rice varieties outnumber wheat, e.g. śāli of many types, yavaka etc.
2. Śamīdhānya	14 (pulses)	E.g. greengram, blackgram, tila etc
3. Māmsa (meats) Prasahā	28	(Grasping food) e.g. cow, ass, dog, carnivores
Bhūmiśaya	10	(Living in burrows) e.g. python, frog, mongoose
Ānūpamṛga	9	(Living in marshes) e.g. boar, yak, rhinoceros etc.

Class	Number*	Comment
Vāriśaya	11	(Living in water) e.g. tortoise, fish, crab, whale, crocodile etc.
Ambucārī	29	(Moving on water) e.g. swan, crane, ducks etc.
Jāṅglamṛga	17	(Living in jungles) e.g. deer, hare, wild goat etc.
Lāvādya	8	(Scattering grain while eating) e.g. quail, partridge, pheasant
Vartakādi	13	(Gallinaceous) e.g. bustard, peacock, partridge etc.
Pratuda	31	(Eating while pecking) e.g. koel, pigeon, parrot etc.
4. Śāka (vegetables)	120	Stem, tubers, leaves, flowers etc e.g. Solanum, amaranthus, all legumes
5. Phala (fruits)	73	E.g. grapes, mango, jack fruit, coconut, amla, pomegranate etc.
6. Harita (greens)	21	E.g. ginger, garlic, coriander, radish etc.
7. Madya (fermented drinks)	22	E.g. grape, sugarcane, wine, vinegar etc.
8. Jala (waters)	16	E.g. rainwater harvested from different soils, in different seasons; rivers, sea
9. Gorasa (milk and milk products)	16	E.g. milk of different animals, curd, ghee etc.
10. Ikṣu (sugars)	10	E.g. sugarcane juice, jaggery, sugar, honey etc.
11. Kṛtānna (dietary preparations)	25	Liquid, semiliquid, solid e.g. gruel, soup; boiled rice, preparations of grain, meat, flour etc.
12. Āhārayoga (food additives)	25	E.g. oils, black pepper, asafoetida, salts etc.

*

Caraka recognised that all human activities - worldly, ritualistic, emancipatory - are rooted in food (anne pratiṣ ṭhitam) which plays a vital role in die practice of medicine. His menu was rich and varied and included numerous varieties of meats and fermented drinks. Meats were obviously a common item of food even though Caraka was careful to suggest an alternative vegetable preparation whenever he prescribed a meat formulation for treatment. The large number of vegetables, fruits and greens shows that their high nutritional value was appreciated. Four types of fat - oils, ghee, animal fat and marrow - were classified separately.

Boiling, frying, extracting, fermenting, flavouring, pickling, concentrating and many other techniques used in cooking food were also applied in the preparation of medicinal formulations. Since black pepper was preferred for flavouring food and making formulations, spices were obviously making their way to northwest India from Kerala. Coconut was another product which had been sourced from south India even though Caraka did not refer to the use of coconut oil. Wheat would seem to have become the staple cereal in northwest India in a later period.

It would appear that the prohibition against the killing of animals had little currency in Caraka's country where meats were popular. Rice among cereals, bird meat among meats, cow's milk among milks and sesame among oils were the favourites. Caraka's food store reflects not only variety and sophistication but also the social preferences for food and drinks in his period.

IX *Habitat*

Caraka locates the discussions of Ātreya in the Himālayan country, noted for its breathtaking views, clean air, lush greenery, colourful flowers and sparkling rivers. He was however aware that the land was prone to floods, earthquakes and other forms of devastation, which were followed by epidemics. A warning of the impending disaster could be sensed in certain combinations of planetary positions, abnormal winds, forest fires and irregular weather patterns. As a consequence, an impoverished earth would fail to nourish the plants which would be deprived of the vital properties of taste, potency, post-digestive taste and specific effective action. Given that plants nourish humans, the resistance to disease would then be lessened and the likelihood of an epidemic sweeping through the region would increase. Prudence demanded that healthy herbs be collected and preserved in advance when the first sign of disaster appeared.

People differ vastly in constitution, food habit, psychologic make-up, age and ability to adapt, but these are levelled by an epidemic which is spawned by the gross pollution of air, water, earth and the unnatural seasons. The polluted environment would lead to the proliferation of insects of all kinds, growth of wild and poisonous weeds and all-round distress. Earthquakes and floods would devastate the land which could be assailed by showers of meteorites. The sun and the moon would then be hidden by thick clouds, with terrifying darkness everywhere. There would be wailing and devastation among people who would become cruel and fail to see the distinction between right and wrong. The habitat would be ruined by epidemics, the destruction depending on the extent of pollution. To escape the consequences, the wise person should use evacuative measures, rejuvenant therapy and live on foods gathered earlier. Equally importantly, he should adhere to virtuous conduct (sadvṛtti). A prudent and virtuous code would save a person from the ravages of epidemics unless his death was predestined.

Caraka traces natural disasters to their ultimate cause which, according to him, is unrighteousness (adharma). Unrighteousness could also be the fruit of sinful actions in a previous life. Regardless of whether the wrong action took place in the present or past life, it would constitute imprudent conduct and an offence against reason. He illustrated this by citing the example of corrupt rulers who held the country to ransom, promoting even more corruption at lower levels, and the eventual disappearance of righteousness from the land. The gods too would forsake such a community which would become a victim of floods, droughts, typhoons and the disastrous failure of crops. Caraka also alluded to the calamity of wars which he must have witnessed. Here again, the root cause was the imprudent conduct of greedy, conceited and aggressive rulers who coveted the wealth of weak neighbours. The prevention of natural disasters and the prophylaxis against their adverse effect on health were, according to Caraka, inseparable from the righteous conduct of a community and its rulers. Medical prophylaxis could only be useful for control, not prevention.

He proceeded to deal with the progressive decline of righteousness by a quarter in each age - from kṛta to kalī - and a corresponding drop in life expectancy and increase in the possibility of disasters. This was not a new theme; Caraka merely chose a furrow which had been ploughed in India from time immemorial. The Bhāgavata, written centuries after Caraka, referred to the same idea by the vivid description of the plight of righteousness as a one-legged bull hobbling in the wicked age of kalī. He had lost three legs, one each in the three preceding ages of kṛta, tretā and dwāpara yugas! Caraka, however, gave a novel interpretation for the decline in righteousness and life expectancy and the increase in the burden of diseases towards the end of the kṛta yuga. He held that these negative effects were brought on by overindulgence, lack of physical activity, greed and the acquisitive acts of people who were responsible for their actions.

Caraka's discourse leaves one in no doubt that he was aware of the connection between natural and artificial disasters and environmental devastation on the one hand and the outbreak of epidemics on the other. He believed that arid country (jā ṅgala) was the least prone to diseases; wet, humid zone (ānūpa) the most vulnerable and the intermediate (sādhāraṇa) region having only mild propensity to disease.

X *Learning to be a Physician*

As Caraka's Samhitā is a distillate of many discussions between a revered master and his zealous disciples, the training of a physician is the thread that links the manifold themes of the book. From what is known, the university at Takṣaśila had been acclaimed as a great centre of medical learning and had attracted hundreds of eager students from far and near before Buddha and had flourished until its eclipse in the 4th or 5th century AD. But Caraka is silent on Takṣaśila. It is therefore likely that, side by side with the university stream, the more ancient gurukula system for training physicians flourished and attracted great teachers and talented students. The Himālayan villages seem to have been the natural home for many forest schools specialising in medicine, philosophy and other branches of knowledge. The discussions in *Caraka Samhitā* were always held outdoors, in the cheerful surroundings of Himālayan woods.

ELIGIBILITY FOR TRAINING

In Caraka's scheme of training, an aspirant was obliged to have had sufficient liberal education to be able to select a medical text from among many for 'majoring' before approaching a teacher. The liberal education in those days included not only literature (sacred and secular) with accessories such as grammar, logic, poetics and philosophy, but also astronomy, astrology, mathematics, botany and mechanical arts. The aspirant was therefore well informed and capable of choosing a particular text and branch of medical knowledge when he presented himself before a teacher. The selection of a pupil was a rigorous process which looked into his physical, mental, intellectual and moral attributes besides his aptitude for a long and austere period of training. A teacher accepted no more than a handful of pupils at a time and each received personal attention (testified by the discussions that took place under Ātreya's guidance).

INITIATION

Following admission to the gurukula, the pupil underwent a formal procedure of initiation which amounted to a sacred contract that imposed mutual obligations on the teacher and the taught. The ceremony was vedic in character, complete with sacrificial fire, chanting of mantras and oblations to the fire. The ritual culminated in an exhortation by the preceptor to the initiate before a learned gathering that included many physicians. The exhortation summed up all that is noble and sacred in religio media and defined the path and a code of conduct for the medical aspirant who expressed his compliance by taking an oath. In the Caraka tradition, the oath was taken at the commencement, not the conclusion, of the course of a physician's training.

ACADEMIC PREPARATION

The training of a physician had three components namely learning, instruction and discussion.

Aphorisms had to be learnt by rote but the learner was obliged to ponder and gain an understanding of their meaning through long hours of study. The teacher instructed the pupil on the textual passages and ensured that the learning process including pronunciation, intonation and understanding was flawless. Even though writing and written texts were in vogue, the emphasis on memorising texts was clear.

However, discussions towered above self-learning and teaching in the training of a physician. Its merits were not only extolled but were demonstrated through the many discussions held by disciples under Ātreya's guidance. Besides promoting understanding at the training level, discussions stood the physician in good stead in later years when he had to face competition from rivals, win academic and professional renown and perhaps obtain royal favour. The extraordinarily detailed discourse on friendly and hostile debate, definition of as many as 44 logical terms and the emphasis on scoring over the opponent are an indication of the importance of discussion and debate in a physician's training and career development. Challenging opponents to a debate on one's doctrine and defeating him to win fame and adherents was an ancient Indian tradition which was by no means confined to āyurveda.

TOPICS FOR BEDSIDE LEARNING

The mark of a good clinician is the ability to make an accurate diagnosis. Caraka declared that a physician who fails to explore the interior of a patient's body with the lamp of knowledge could hardly hope to treat him. Not surprisingly, he discussed at great length a series often topics which a physician had to bear in mind while seeing a patient and deciding on a course of therapeutic action. While the earlier part of training consisting of learning the aphorisms, didactic instruction and discussion took place in an āshram or a grove, the examination of the ten topics was essentially a bedside exercise (Fig. X.i). For example, in relation to the doer (karaṇa) the physician asked himself whether he was competent to tackle the patient's problem; in relation to instrument (kāraṇa), he looked at the alternative approaches of spiritual and rational therapy; under source (kāryayoni), he sought the source of doṣa perturbation; purpose (kārya) reminded him of the need for the restoration of doṣa equilibrium (kāryaphala). Thereafter, he was obliged to study the details of the patient's habitat and examine his body. What the habitat was to the patient, his body was to the disorder. The examination of the body was so thorough that it included an assessment of his constitution in terms of vātala, pittala and śleṣmala and signs of the perturbation of doṣas, and a method for determining the physical status of the essence (sāras) of seven dhātus and the mind from external manifestations. The measurement of body parts was mandatory and if the values exceeded the norms which were prescribed in detail, its adverse effect on prognosis was noted. There was however no reference to pulse or its role in diagnosis.

The clinical examination also took into account the psychologic status, digestive power, exertional capacity and age-related changes of the patient. The physician was enjoined to study the effect of time not only in terms of the seasons on the patient's body but also for the appropriate moment for administering formulations and therapeutic procedures. Lastly, one had to take stock of the adequacy of the medical quartet in clinical management. Whatever was learnt in the gurukula was complemented by the bedside experience in perfecting the training process. Having received training, a physician was asked to use reason (yukti) in choosing the appropriate course of treatment. Only incompetent physicians went by the written word unthinkingly.

Fig. X.i Learning to be a physician. Note the medical quartet: physician, attendant, patient and medication. Here the disciple is the attendant.

CONCLUSION

Caraka's programme for training squarely addressed the theoretical, academic and practical aspects of a physician's endeavour. It upheld high ethical standards and lent support to his view that the physician should serve the patient not for selfish motives or for pleasure but out of compassion for suffering humanity (bhūtadayāmprati).

1 *Āyurveda*

The domain of āyurveda is life, happy and unhappy, wholesome and un wholesome.

CONCEPT OF ĀYURVEDA

Tradition has it that sage Bharadwaja obtained āyurvedic lore from Indra for relieving suffering among people (Kg. 1.1).

The domain of āyurveda is life, happy and unhappy, wholesome and unwholesome.[1] A person is happy when she has no physical or mental malady, is youthful and capable of strength and prowess, possesses knowledge and the wisdom of mellowed experience, has strong and functioning sense organs, enjoys wealth and favourable circumstances and achieves desired rewards. Whatever is contrary to this description is a picture of an unhappy life. Wholesomeness, on the other hand, implies goodwill for all creatures, adherence to truth, non-covetousness, self-control, applying reason in taking decisions, awareness, ability to reconcile virtue, wealth and enjoyment, reverence for noble persons and for learning, service to the elderly, generosity, devotion to peace and spirituality, austerity, memory and intelligence and the ability to bear in mind life here and hereafter. Whatever is opposed to this is unwholesomeness .[2]

Āyurveda measures life in terms of decay. Sense organs, mind, intellect and locomotion decline over time, and one may die after a moment, an hour, several days, a fortnight, a month, six months or a year with intimations of decay. Death (maraṇa) has many names -resuming one's natural state (svabhāva), ceasing of activities (pravṛttyuparama), impermanence (anityatā) and extinction (nirodha). This is the measure of life; its opposite is the sudden appearance of fatal signs without the antecedents of decay.

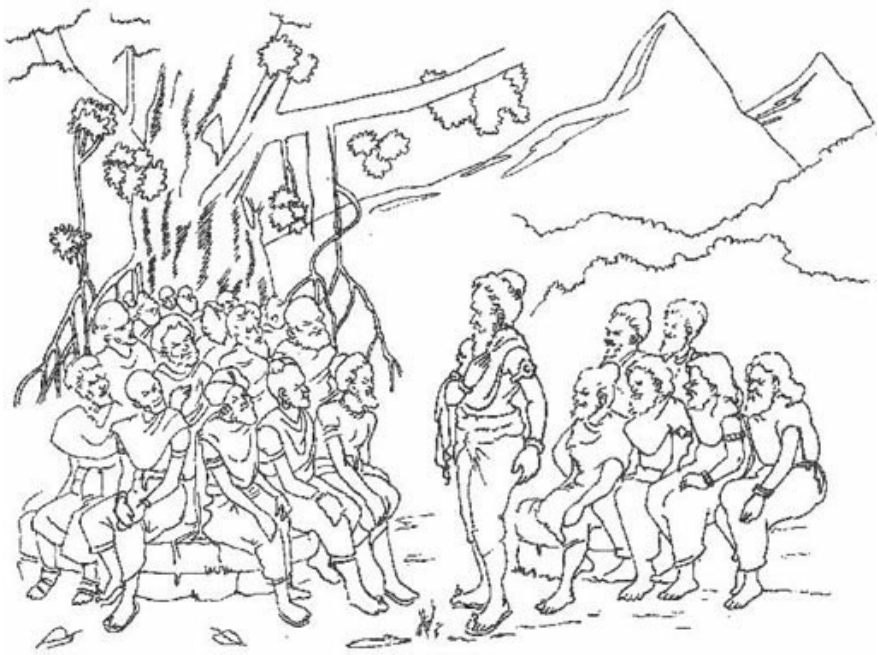


Fig. 1.1 Bharadwāja volunteering for a knowledge mission

What is āyus in āyurveda? It is a conglomerate of the body including sense organs, mind and self. Indeed, they constitute a tripod on which the living being exists.[3] Āyus is synonymous with terms which stand for sustenance (dhāri), living (jīvita), decaying every day (nityaga) and the continuous flow of life substance (anubandha). Āyurveda was regarded as the noblest of knowledge because it encompasses not only life hereafter but also here. Its object is to safeguard the health of the healthy and relieve the illness of the ill.[4] Āyurveda is without beginning or end because its domain is everything in nature, which is itself eternal. There was never a time when life and intellect did not exist. In this sense the knower of āyurveda too is eternal. So are happiness and misery, health and disease, their causes and manifestations, and manifold interactions. This again, proclaims the eternal relevance of āyurveda, which did not arise out of nothing: whatever was new was only the advent of new concepts and understanding.

BRANCHES OF ĀYURVEDA

Āyurveda has eight branches:

1. Internal medicine (kāyacikitsā)
2. Head and neck disorders (śālākya)
3. Surgical removal of foreign bodies (salyāpahaṛtṛka)
4. Treatment of poisoning (viṣagara-vairodhika praśamana)
5. Supernatural medicine (bhūtavidyā)
6. Children's medicine (kaumārabhṛtya)
7. Rejuvenant therapy (rasāyana)
8. Virile therapy (vājīkaraṇa)

STUDY OF ĀYURVEDA

Āyurveda has synonyms which include śākhā, vidyā, sūtra, jnāna, śāstra, lakṣaṇa and tantra. There are many āyurveda treatises. Altogether their scope covers ten areas: the body, its functions, causation of disease, disease processes, objective of treatment, treatment, course of illness, role of the physician, therapeutic instruments and treatment procedures. These subjects should form the legitimate subject of discussion when physicians meet.

The study of āyurveda is open to Brāhmins, Kṣatriyas and Vaiśyas. Brāhmins study for the welfare of all living beings, ksatriyas for their protection and vaiśyas for a living. Āyurveda may be studied by everyone for the attainment of virtue, wealth and pleasure. Virtue is accomplished when one strives to relieve the illness of spiritual masters, those treading the righteous path, parents and family members, kinsfolk and teachers. Virtue is also achieved by contemplating and teaching the principles of āyurveda. Wealth is received from kings and rich patients in return for services. Pleasure is gained when one is honoured by the learned, and is acclaimed as a refuge for the ill and a fountain of service to those in need.

A good physician should have gained mastery over eight didactic aspects of āyurveda - text (tantra), scope of the text, section (sthāna), scope of the section, chapter (adhyāya) and scope of the chapter, topic (praśna) and scope of the topic. The physician should be ready to interpret any part of the text and recapitulate the main points again when necessary.[5] In debates the physician would often encounter people with inadequate knowledge trying to pass off as scholars and experts by excessive and irrelevant talk; it is his duty to expose them by putting direct questions on the eight didactic aspects of āyurveda.[6]

CATEGORIES IN ĀYURVEDA

The scope of āyurveda covers all that exists in nature and all objects of experience (padārthas), which fall into six categories. They are substance (dravya), quality (guṇa), activity (karma), generality (sāmānya), particularity (viśeṣa) and inherence (samavāya). While substance, quality and activity have objective existence, generality, particularity and inherence are products of intellectual effort.

Substance (dravya)

Substances have independent existence; they are the substrate for qualities. They are the five substances [ether (ākāśa), air (vāyu), fire (tejas) water (āp), earth (pṛthvi)], self (ātmā), mind (manas), time (kāla) and space (dik). The living beings stand on a tripod where the legs are the mind, self and body, the last consisting of the five substances. What distinguishes the sentient and living substance from the insentient and non-living is the possession of sense organs and the capacity to become aware of sensations.

Quality (guṇa)

Qualities consist of the objects of sensation: sound (śabda), touch (sparśa), vision (rūpa), taste (rasa) and smell (gandha), twenty physical qualities such as heavy/light (guru/laghu) and moist/dry (snigdha/rūkṣa), five qualities of the mind such as desire (icchā) and aversion (dveṣa), and ten relating to the intellect such as priority and posteriority (parā and aparā) including reason (Table 1.1).

Table 1.1 Qualities

Sensations:

Sound (śabda)

Touch (sparśa)

Vision (rūpa)

Taste (rasa)

Smell (gandha)

Physical qualities:

Heavy/light (guru/laghu)

Hot/cold (uṣṇa/śīta)

Moist/dry (snigdha/rūkṣa)

Slow/quick (manda/tikṣṇa)

Smooth/rough (slakṣhṇa/khara)

Solid/liquid (sāndra/drava)

Soft/hard (mṛdu/kaṭhina)

Fixed/mobile (sthira/sara)

Subtle/gross (sūkṣhma/sthūla)

Clear/turbid (viśada/picchila)

Mental qualities:

Desire (icchā)

Aversion (dvēṣa)

Joy/sorrow (sukha/dukkha)

Effort (prayatna)

Intellectual qualities:

Superiority/inferiority (parā/aparā)

Reason (yukti)

Number (sankhyā)

Conjunction/disjunction (samyōga/vibhāga)

Individuality (pṛthaktva)

Size (parimā ṇa)

Processing (samskāra)

Practice (abhyāsa)

Of these forty qualities, āyurveda uses about twenty physical qualities. In adopting the ancient classification, the meaning of certain terms also underwent changes to suit the practice of āyurveda. For example, parā and aparā signified priority and posteriority according to tradition but in āyurveda they meant superiority and inferiority with reference to the place, time, age and measure. Whereas samyōga meant joining things which had remained apart and which could come apart again, in āyurveda it meant the compounding of substances. Vaiśeṣika identified samṣkāra with faculty but in āyurveda it means processing.

Activity (karma)

Tradition defined activity as movement that characterises substances. It is as inherent in substances as quality except that it is limited in duration. Āyurveda, however, viewed activity as that which brings about conjunction and disjunction in substances. Union and separation are unceasing processes in humans, animals and plants.

Generality (sāmānya)

It is the possession of generality that makes many individuals belong to one class. This is not an abstract concept in āyurveda; the quality of generality indicates that substances have similar characteristics. At all times it is generality that causes the increase in substances with similar qualities. Generality unifies similar substances and denotes similar purpose and action. Therefore, substances having properties such as hot/cold and light/heavy in the body will increase or decrease on the basis of generality and particularity. The intake of heavy substances, for example, will increase the heavy components of the body just as that of light substances will decrease them. This quality of like substances building and unifying, and unlike substances breaking down and disuniting is eternal.

Particularity (viśeṣa)

Particularity, is the quality that enables things to be distinguished from one another. In contrast to generality that promotes the increase of substances with similar properties, particularity diminishes substances with dissimilar properties. This is the cornerstone in āyurvedic therapeutics which seeks to redress the imbalance of doṣas by administering dravyas - diet and medications - with opposite qualities.

Inherence (samavāya)

Inherence is the relationship which binds a substance and its qualities. Thus bound, the substance and qualities remain unified and inseparable. This is different from samyōga which joins things that had remained separate and could separate again. Samavāya is eternal in the sense that it cannot be broken without destroying the substance. The constituents of the body, diet and medication consist of numerous substances with inherent qualities and their fine balance holds the key to the maintenance of health and the treatment of disease.

EQUILIBRIUM OF DHĀTUS (DHĀrusĀMYA)[7]

Dhātus (constituents) are the products of the five elements and form the material basis of the body. Their very name suggests that they sustain the body mechanism. The aim of āyurveda is to restore and maintain the equilibrium of the constituents, which is synonymous with health and happiness.[8]

The disequilibrium of dhātus or ill health - physical and mental - is caused, in the ultimate analysis, by the non-use, excessive use or misuse of time, intellect and sense objects. The body and the mind are the substrates for illness and health, the supreme Self having no role in this in so far as it is changeless, eternal, a witness to all that happens and a non-active member of the vital complex which is responsible for consciousness. The active members of the complex are the mind, sense organs and the qualities of the five elements (smell, taste, vision, touch and sound).

Disequilibrium is due to increase or decrease in varying degrees of the levels of dhātus in the body. Sound therapeutics seeks to lower or raise the levels of constituents and restore the equilibrium by administering measures with opposite properties. These measures would include not only diet and medication but also physical activity and a code of conduct. To maintain the equilibrium of dhātus it is not enough that one's actions and food habits are contrary to the properties of the place, time and individual; one should also refrain from suppressing natural urges[9] and excessive, scant or the perverted use of sense objects, and time and intellect and rash actions.

The regular use of food articles with properties similar to a particular constituent will cause its increase whereas those with opposite properties will lead to its decrease. To illustrate, heavy foods will increase the constituents which share heaviness as a quality while articles which are light will decrease them. On the other hand, light substances in food will increase the dhātus which possess the property of lightness. According to this principle, flesh, blood, fat, muscle fat, bone, bone marrow and semen would increase by the ingestion of the same substances. This claim is theoretical because these substances are often not available and are, in any case, unwholesome if not repulsive. Therefore, it is perfectly in order to take a substance whose properties are closely similar to the food which is necessary for restoring the equilibrium of dhātus but is unfit for intake. For example, milk, ghee, and other sweet , lubricant and cold substances are appropriate for an individual who suffers from paucity of semen. Similarly when urine output is insufficient, sugarcane juice, salty drinks and hydrating substances are advised. Not only food substances but also physical activities which cause increase or decrease in constituents play a supplementary role in therapy. In general, residing in a place where the residents enjoy good health and strength, superior quality of seed and soil, favourable seasons, good food, adaptive ability, sound mind and body, youth, physical activity and a joyous attitude promote the strength of an individual.

How does ingested food transform itself to increase or decrease the constituents? The change is brought about by agents such as fire which digests, vāta which evaporates, moisture that loosens, fat which softens, time which matures and lastly, proper application. The products result from a series of changes and belong to two categories. Those that are compatible with the constituents and share their twenty qualities such as heaviness and lightness (āharādhātus) are assimilated and become part of dhātus. The products which cannot join the dhātus, or are harmful, become waste substances like mucus which appear at the body orifices (maladhātus). Waste substances include worn-out dhātus past their time, and perturbed vāta, pitta and kapha which are harmful when retained. Perturbation of vāta, pitta and kapha (doṣavaiṣamya) corresponds to dhātuvaiṣamya because doṣas are after all dhātus.

EQUILIBRIUM OF DOṢAS (DOṢASĀMYA)

Physical doṣas

Equilibrium of constituents is not achieved by merely balancing the seven dhātus of the body. The balance among the three doṣas of the body - vāta, pitta and kapha - and the two qualities of the mind - rajas and tamas - is equally important.

Among the doṣas, vāta is the most powerful.[10] It exists in both perturbed and unperturbed forms, within and outside the body. It is dry (rūkṣa), cold (śīta), light (laghu), subtle (sūkṣma), moving (cala), clear (viśada) and rough (khara). Vāta has five forms which differ in location and direction - prāṇa, udāna, samāna, vyāna and apāna. Vāta supports body parts and organs, causes movement upwards and downwards, directs the mind, mediates the function of all sense organs, regulates the formation and integration of the various constituents of the body, powers speech, stimulates touch and sound at the root of tactile and auditory organs, gives rise to joy and valour, excites the digestive fire, dries up doṣas, expels excreta, cuts the gross and fine channels of the body, shapes the fetus and guards lifespan. When perturbed, it causes numerous derangements which undermine strength, complexion, wellbeing and longevity. It also disturbs the mind, subdues all sense organs, maims or kills the fetus, generates fear, sorrow, delusion and delirium and, in the end, snuffs out the vital breath.

The protean roles of vāta within the body are also reflected outside the body, in the universe. Unperturbed, vāta or vāyu supports the earth, kindles fire, regulates the unceasing movement of the sun, moon, stars and celestial bodies, generates clouds and rainfall, opens up streams, brings forth flowers and fruits in plants, divides the seasons, maintains the proportion and identity of dhātus, enhances the potency of seeds and growth of plants, dries up moisture and plays a role in all natural reactions. When perturbed, vāyu causes havoc - blowing away mountains, uprooting trees, causing high tides and flooding of lakes and rivers, triggering earthquakes and thunder, effecting showers of dew, dust, sand, fish, frog, snake, alkali, blood, rock and thunderstorms. Seasons lose sequence, crops fail, living creatures suffer and positives turn negatives. Ultimately, the outburst of clouds, wind, fire and sun signal the end of the four ages. Vāyu, therefore, is omnipotent and indestructible; it causes the appearance and disappearance of creatures, dispenses happiness and misery, holds the reins of death, takes many forms, pervades everything and masterminds all processes. Protector and mover of the entire world, vāyu is the lord himself.

A thorough understanding of the nature and role of vāyu is indispensable for those practising medicine because it can cause grave emergencies, and these can only be prevented and managed by understanding the cause.

Pitta contains agni and stabilises or destabilises the equilibrium of the doṣas depending on whether it is unperturbed or perturbed. The effects of perturbed pitta are indigestion, sightlessness, abnormal heat, unnatural colour, fear, anger, delusion and such responses.

Soma (water or āp) which underlies kapha is responsible for good and bad effects depending on its state. These effects include firmness and looseness, building and wasting, zeal and lethargy, strength and weakness, knowledge and ignorance, comprehension and confusion and other opposite pairs of similar nature.

Rajas and tamas: psychic doṣas

Rajas and tamas are psychic doṣas which bind a person to different modes of conduct.[11] While sattva binds an individual to virtue and a life of wholesomeness, rajas and tamas are responsible for passion, anger, greed, delusion, envy, conceit, fear and other negative emotions. Psychic doṣas resemble bodily doṣas in being perturbed by the inappropriate contact of sense organs with objects, imprudent conduct and march of events. It may happen that bodily and psychic doṣas are both perturbed in a given illness with somatic and psychic consequences. Rajas and tamas are always seen in combination because tamas is immobile and cannot move unless moved by rajas. When rajas and tamas envelop the self (ātmā) memory falters, reason and restraint fade, the person behaves imprudently (prajñāparādha), and all the doṣas are upset, causing disorders. Imprudent conduct manifests in many ways such as rashness, lecherousness, procrastination, neglect of modesty and good conduct, contempt for the learned, wilful use of harmful practices, choosing the wrong place and time for action, befriending the evil-minded, non-adherence to the code of noble conduct, jealousy, arrogance, fear, anger, greed and delusion. The physical and mental ill effects of wrong conduct are traceable to the power of rajas and tamas which cloud the mind and command evil action. Equilibrium of the doṣas of the mind and wholesomeness flow from observing good conduct and leading a sattvic life.

SETTLING THE DISTURBED EQUILIBRIUM OF DOṢAS

When the equilibrium of physical doṣas is disturbed, the restoration of equilibrium is achieved by physical measures or worship. The disequilibrium of psychic doṣas, on the other hand, is settled by right knowledge, realisation of knowledge, self-control, retention of memory and the focussing of the mind.

Disorders that are curable are treated principally by medical formulations with properties that are opposed to those of the disturbed doṣas. For example, vāta is non-lubricant, cold, light, mobile and rough; pitta is mildly lubricant, hot, sharp, sour, fluid, mobile and stinging; kapha is heavy, cold, soft, lubricant, sweet, greasy and immobile. The drugs to counter each of these doṣas should have properties opposed to them, and their use should take into account the role of place, dose and time as well. However, no drug should be given if the disorder of doṣas is incurable.[12]

The physical properties of doṣas notwithstanding, in practice, the choice of drugs opposed to them is made on the basis of taste that indirectly reflects the physico-chemical properties and holds the key to therapeutic choices. Rasa is the object of the gustatory sense organ that has its seat in the tongue. Rasa has two material components of the mahābhūtas - āp and pṛthvi; the other three, ākāśa, vāyu and tejas are only modifiers. There are a total of six rasas - sweet, sour, saline, pungent, bitter and astringent - which characterise doṣas as well as therapeutic substances in different combinations. Among these, sweet, sour and saline counter vāta; astringent, sweet and bitter neutralise pitta; and astringent, pungent and bitter overcome kapha. The formulations may act in three ways - by settling the perturbed doṣas, by settling the dhātus which are assailed by doṣas, or by promoting wellbeing.[13]

Drug formulations

There are three groups of drug formulations, classified on the basis of their origin. They are discussed below.[14]

Of animal origin

This would include honey, milk and milk products, bile, muscle fat, marrow, blood, flesh, feces, urine, skin, semen, bone, ligament, horn, nail, hoof, hair and bile stones. There are eight varieties of urine and milk, which are commonly used.

Urine is by nature sharp, non-lubricant, saline and pungent. It is used in pastes, non-lubricant enemas, purgation, fomentation, irrigation and other applications in a number of disorders. It settles perturbed kapha, redirects vāta to its proper course and mops up pitta through purgation. A classification of urines is given in Table 1.2.

Milk is sweet, lubricant and cold, promotes breast milk, semen and body strength, strengthens intellect and mental functions and is beneficial in treating numerous disorders. It is used in many formulations for ingestion and for various external and evacuative procedures. The properties of different milks are described in Chapter 17. It improves body strength, strengthens intellect and mental functions and is beneficial in treating numerous disorders. It is used in many formulations for ingestion and for various external and evacuative procedures. The properties of different milks are described in Chapter 17.

Table 1.2

Source of urine	**Properties**
Sheep	Bitter, lubricant, non-opposed to pitta
Goat	Astringent, sweet, opens body channels, relieves all doṣas
Cow	Mildly sweet, mild relief to doṣas, effective against worms and itching
Buffalo	Alkaline; laxative, relieves piles and abdominal disorders
Elephant	Salty; relieves retention of urine and stools, effective against worms, kapha disorders
Camel	Bitter; relieves cough, shortness of breath
Horse	Bitter, pungent; beneficial in treating wounds and poisoning
Ass	Beneficial in treating seizures, insanity

Of plant origin

There are four groups namely, vanaspati, vīrudh, vānaspatya and oṣadhi. Vanaspati is marked by fruits; vīrudh by spread; vānaspatya by flowers and fruits and oṣadhi by its dissolution after fruiting. The parts of plants used in therapy include root, bark, corewood, secretion, stem, crushed juice, latex, tender leaves, alkali preparation, fruit, flower, ash, oil, thorn, leaves, leaf buds and sprouts. No part of the plant is spared! There are sixteen plants with useful roots, nineteen with useful fruits, and six trees with applications in evacuative procedures. Roots of the following plants are frequently used (Table 1.3).

There are six other trees, snuhi, arka, aśmantaka, pūtīka, kṛṣṇagandhā and tilvaka, whose latex, bark and other parts are used for evacuative and other purposes.

Table 1.3

Plants	**Applications of roots**
Haimavatī, bimbī, śaṇāpuṣpī	Emesis
Śvetanāmā, jyotiṣmatī	Head evacuation
Hastidanti, śyāmā, trivṛt, adhoguḍa, dantī, gavākṣī, viṣāṇikā, ajagandhā, dravantī and kṣīriṇī	Purgation

The fruits of the following plants are used extensively (Table 1.4).

Table 1.4

Plants	**Applications of fruits**
Dhāmārgava, ikṣvāku, jīmūta,	Emesis and non-lubricant enema
kṛtavēdhana, madana, kuṭaja, trapuṣa, hastiparṇī	
Apāmārga	Nasal evacuation

Śankhinī, viḍaṅga, prakīrya, udakīrya, harītakī, antaḥkoṭarapuṣpī, kampillaka, āragvadha, kḷītaka (aquatic and terrestrial)	Purgation

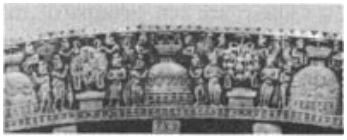
Of earth origin

Examples are gold, silver, copper, iron, lead, tin and their products, silica, calcareous materials, realgar, orpiment, precious stones, salt, ochre and galena.

Of mixed origin

Four fats in therapeutic use ghee, oil, muscle fat and marrow; five salts: - sauvarcala (from suvarcalā plant), saindhava (rock salt), biḍa (from excrement), audbhida (from earth) and sāmudra (from seawater). The fats and salts have many applications and are used in a variety of forms.

Shepherds, cowherds and those living in jungles would recognise plants, but may not realise their significance. Real knowledge comes when one goes beyond recognition and understands the manifold aspects of the therapeutic use of plants. The best among physicians is a master in the administration of plant products, who keeps in mind the importance of place, time and the specific constitution of the patient. While an unknown drug is dangerous like a poison or a weapon, a known drug is life-saving like nectar.[15]



2 *Drug Formulations in Therapeutics*

A list of medications would assist the physician of moderate intelligence to practise medicine while offering hints to the gifted for expanding knowledge.

Specific formulations should be used in performing the five therapeutic procedures which play a central role in medical treatment. Targetted at the disturbed doṣas, the procedures may consist of head evacuation (śīrṣa virecana), emesis (vamana), purgation (virecana), non-lubricant enema (āsthāpana) and lubricant enema (anuvāsana). Each of these procedures calls for specific formulations.[1] These are dealt with in detail in chapter 66. Besides, there are twenty-four types of gruel preparations (yavāgu) consisting mainly of plants (but not excluding animal parts) which are used in treating a variety of disorders,[2] and thirty-two powders and pastes based on plants such as āragvadha for application, predominantly in skin ailments and, to a lesser extent, in other disorders such as vāta and vātarakta.[3]

The pervasive role of medicinal plants will be discussed throughout the text and especially in chapters 35-65. For example, there are no less than six hundred evacuative drugs, which are derived from the latex, root, bark, leaf, flowers and fruit of plant drugs such as madana.[4] Their tastes include sweet, sour, pungent, bitter and astringent, and the forms for administration could be juice, paste, decoction and cold or hot infusions. They should be chosen for treatment on the basis of the perturbation of doṣa and the strength of the patient, and not at random or interchangeably (Chapter 65).

There are ten groups of major decoctions (mahākaṣāya), each accounting for a varying number of-constituent decoctions (kaśāyayonaya), but totalling fifty. The constituent decoctions consist of sub-groups which are composed often plants each, the number of plants totalling 500 (Table 2.1).[5]

Table 2.1

Major decoction	Constituent decoctions	Actions
Group 1	Six sub-groups of ten drugs each	1. Vitalising E.g. Jīvaka, ṛṣabha, medā 2. Bulk promoting E.g. Kṣīriṇī, rajakṣavaka, aśvagandhā 3. Bulk reducing E.g. Mustā, kuṣṭha, haridrā 4. Mass breaking E.g. Suvahā, arka, eraṇḍa 5. Union promoting E.g. Madhuka, madhuparṇī, pṛṣniparṇī 6. Appetite enhancing E.g. Pippalī, pippalīmūla, cavya
Group 2	Four sub-groups of ten drugs each	1. Promotes strength E.g. Aindri, ṛṣabhī, atirasā 2. Promotes colour E.g. Candana, punnāga, padmaka 3. Promotes throat comfort E.g. Sārivā, ikṣu, madhūka 4. Promotes cheer E.g. Āmṛa, āmṛātaka, lakuca
Group 3	Six sub-groups of ten drugs each	Counters the following: 1. Satiety E.g. Śuṇṭhī, cavya, citraka 2. Piles E.g. Kuṭaja, bilva, citraka 3. Skin disorders E.g. Khadira, harītakī, āmalaka 4. Itching E.g. Candana, nalada, āragvadha 5. Worms E.g. Akṣīva, marica, gaṇḍīra

		6. Poisons E.g. Haridrā, manjṣṭhā, suvahā
Group 4	Four sub-groups of ten drugs each	1. Promotes milk E.g. Vīraṇa, śālī, ṣāṣṭikā 2. Cleanses milk E.g. Pāṭhā, śuṇṭhī, devadāru 3. Promotes semen E.g. Jīvaka, ṛṣabhaka, kākolī 4. Cleanses semen E.g. Kuṣṭha, ēlavāluka, kaṭphala
Group 5	Seven sub-groups of ten drugs each	1. Adjunct to lubricant E.g. Mṛdvīka, madhuparṇī, medā 2. Adjunct to fomentation E.g. Śōbhāñjana, eraṇḍa, arka 3. Adjunct to emesis E.g. Madhu, madhuka, kovidāra 4. Adjunct to purgation E.g. Drākṣa, kāśmarya, parūṣaka 5. Adjunct to corrective enema E.g. Trivṛt, bilva, pippalī 6. Adjunct to lubricant enema E.g. Rāsnā, devadāru, bilva 7. Adjunct to nasal evacuation E.g. Jyotiṣmati, kṣavaka, marica
Group 6	Three sub-groups of ten drugs each	1. Inhibits vomiting E.g. Jambu, āmra, mātulunga 2. Quenches thirst E.g. Śuṇṭhī, dhānvayavāṣaka, mustā 3. Relieves hiccup E.g. Śaṭī, puṣkaramūla, badara

Group 7	Five sub-groups of ten plants each.	1. Condenses faeces E.g. Priyaṅgū, anantā, mocarasa, 2. Decolours faeces E.g. Jambu, sallakī, kaccūra 3. Inhibits urine E.g. Jambu, āmra, plakṣa 4. Promotes urine E.g. Vṛkṣādani, gokṣurā, vasuka 5. Decolours urine E.g. Padmā, utpala, priyaṅgū
Group 8	Five sub-groups of ten drugs each	1. Relieves cough E.g. Drākṣa, āmalaka, pippalī 2. Relieves shortness of breath E.g. Śaṭī, puṣkaramūla, amlavetasa 3. Relieves inflammation E.g. Pāṭalā, agnimanthā, śyonāka 4. Relieves fever E.g. Sārivā, śarkarā, pāṭhā 5. Relieves fatigue E.g. Drākṣa, kharjūra, priyāḷa
Group 9	Five sub-groups of ten drugs each	1. Quenches thirst E.g. Lajjā, candana, kāśmarya 2. Relieves cold E.g. Tagara, aguru, dhānyaka 3. Relieves skin rash E.g.Tinduka, priyāla, badara 4. Reḷieves body ache E.g. Śālaparṇī, pṛṣniparṇī, bṛhatī 5. Relieves bowel spasm E.g. Pippalī, pippalīmūla, cavya
Group 10	Five sub-groups of ten drugs each	1. Stops bleeding E.g. Madhu, madhuka, rudhira

		2. Relieves pain E.g. Sāla, kaṭphala, kadamba 3. Revives coṇsciousness E.g. Hiṅgu, kaiḍarya, arimeda 4. Promotes fetal growth E.g. Aindri, brāhmī, śatavīryā 5. Fortifies the ageing E.g. Guḍūcī, harītakī, āmalakī

There are innumerable medications. A list of medications would assist the physician of moderate intelligence to practise medicine while offering hints to the gifted for expanding knowledge. A question may be raised as to how the total number of drugs in the above list could be 500 when several of them figure in more than one sub-group. The answer is that such drugs are nominally identical but functionally different just as a person acquires different identities to correspond to

varied functions.[6]

3 *Sense Perception and Wellbeing*

The middle path should be the aim of anyone desiring a life in harmony with oneself and with the world without.

SENSE PERCEPTION

A wholesome life is rooted in harmony between the world and the individual. The physical world is known to us through our sense organs[1]. The sense organs are not visible but their existence can be inferred through their presence in the eye, ear, nose, tongue and skin. Each sense organ picks up a specific object which is not accessible to other organs. The eye cannot hear any more than the ear can see. The objects of senses are vision, sound, smell, taste and touch. Like the body and its surroundings, the sense organs are composed of five elements, each mahābhūta dominating a given sense organ. Ākāśa (ether), vāyu (air), tejas (fire), āp (water) and pṛthvi (earth) dominate auditory, tactile, visual, gustatory and olfactory organs; it follows that each organ perceives those objects which share the same dominant elements. Accordingly, auditory sense takes note of ākāśa (ether) and its derivatives, tactile of vāyu (air), visual of tejas (fire), gustatory of āp (water) and olfactory of prthvi (earth). However, perception of objects is more than mere sensation; it occurs only when the sense organ, sense object, mind and self come together in an integral relationship. The relationship is variable in duration but crucial nevertheless because sense organs cannot perceive anything unless they are joined by the mind. Mind, on the other hand, not only supports the five senses but also performs analytical activity and provides a forum for the interplay of the three qualities of sattva, rajas and tanias. With so many functions, is it possible that each person has many minds? This is not the case because the mind only attends to one function at a given moment. Similarly, the three qualities operate in a single mind even though one dominates and confers the tide of sattvic, rajasic or tamasic on the mind. When one dominates, the other two qualities are passive, but no mind is the exclusive seat of one quality.

Does a discussion on sense perception fit in with the concept of wellbeing and good health? Yes, it does. When the sense organ-object-mind-self complex takes the middle path, is not overused, underused or misused, the individual attains wellbeing and is in harmony with the world. When the complex is deranged, or acts too fast or too slow, or is in disorder, disharmony or illness occurs. Happily, the disharmony is not irreversible in so far as harmony is restored when the sense organ complex returns to balanced structure and function, which is its natural condition.

What is true for the relationship of the sense organ to its object is equally valid for the mind. As the sound is the object of the auditory sense, any object of thought, or whatever can be thought of, is the object of the mind. A balanced mind would shun idleness as much as the overuse and misuse of the

thought process. Adoption of the middle path ensures the right kind of connection not only among the sense organs, their objects and the mind, but also between the mind and its object - thought. This should be the aim of anyone desiring a life in harmony with oneself and with the world without. The choice is implemented by intellectual effort (buddhi) which enables one to direct one's conduct with qualities opposed to those of place, time and self. This is a cardinal principle of wholesomeness and indeed of āyurvēda. These qualities have been classified and reclassified, but for a physician, the appropriate examples for place, time and self would include pairs of qualities such as moist/dry (snigdha/rūkṣa), cold/hot (śīta/uṣṇa), and desire/aversion (icchā/dveṣa). Obviously the pursuit of harmony or wellbeing would involve place, time and self, and call for adherence to a code of conduct that spares no aspect of life - physical, mental, intellectual, spiritual and social.[2]

A DAY IN HUMAN LIFE

A code of conduct has a major claim on daily life.[3] Twice a day and after taking food the teeth should be cleaned with the crushed twigs of plants such as karañja, karavīra, jāti and arka which are astringent, pungent and bitter. While cleaning the teeth, the gums should not be injured. The tongue should be cleaned with a curved and not very sharp scraper made of gold, silver, copper, tin or brass, as it collects dirt nearer its root. Chewing the fruits of jāti, kaṭukā, pūga, lavaṅga, kākola, small cardamom, betel leaves and extract of camphor enhances taste and fragrance. Regular attention to teeth and tongue removes foul smell and loss of appetite.

One should bathe twice a day, and pray to the gods, cows, brahmins, teachers and elderly persons. The bath should not be taken while naked or exhausted, nor should one dry the head with the bathing cloth or wear dirty clothes after bath. Not only does a bath cleanse and purify the body, it also removes fatigue and enhances virility. Clothes worn should be clean and comfortable and never torn: they add to one's charm, enhance pleasure and make one eligible to attend assemblies. Wearing gems and ornaments is auspicious and conducive to prosperity and long life. Sporting flowers, garlands and perfume is desirable as they remove gloom, increase strength, longevity and virility. The feet and excretory organs should be kept clean as much for cleanliness as for the promotion of intelligence and longevity. Hair and nails should be cut thrice a fortnight, the hairstyle conforming to common practice.

During study hours, pupils should be guided by preceptors. While reading aloud from texts or pronouncing words, special attention should be paid to ennunciation. The voice should be confident, neither too low nor too loud, and delivery neither too slow nor too fast. Studies should be suspended during storms, earth tremors, festivals, eclipse, new moon, sunrise and sunset. Cleanliness must be observed during studies. Making offerings of ghee, sesamum, sacred grass, barley and mustard to the fire to obtain various blessings must be accompanied by the chanting of vedic mantras.

OILING THE BODY

Oil is useful for different applications.[4] Gargling, for example, improves taste and appetite and prevents cracking of lips, caries of teeth and oversensitivity of teeth to sour articles; indeed, the teeth become free from pain, firm and one can chew even hard foods. Daily application of oil on the head protects one from headache, and loss and greying of hair. It strengthens the skull bones, brightens the sense organs and ensures sound sleep and cheerfulness. Applied in the ear daily, oil relieves diseases caused by vāta, improves stiffness of neck and jaws and prevents hearing disorders. As a pitcher

gains strength by rubbing oil on the surface and a cart from oiling the axle, the body becomes strong, free from vāta disorders and capable of exertion by oil massage. The dominance of vāta in the tactile organ which resides in the skin heightens the benefit of an oil massage which should be performed regularly. A body accustomed to oil massage is supple and handsome, not much prone to damage by trauma and injuries and is resistant to the infirmities of old age. Applying oil to the feet has many special benefits, including nimbleness and sure-footedness, relief from stiffness, fatigue, numbness, cracking of soles, shortening of ligaments and veins, and radiating pain along the leg. Oil massage of the body also helps in getting rid of foul smell, itching, poor appetite and repellent sweat.

The daily application of sauvīra anjana (collyrium), and weekly use of rasāñjana (mercurial collyrium), to the eyes is beneficial because it promotes secretions and controls kapha which dominates the sense of vision. Strong collyrium should not be applied during the day in summer; its application should be reserved for the night. It cleans vision like an oil cloth cleanses metals such as gold.

SMOKING

For the joy of living, medicated smoke should become a part of the daily routine.[5] This is far from easy as it involves grinding parts of thirty-two plants such as hareṇukā, kesara, candana, elā and guggulu and applying the paste on a thumb-like reed, eight fingers long. When dried, the medicated cylinder should be put in the smoking pipe, lit with a little fat and enjoyed.

The composition of plants will vary when smoking is employed as therapy for various illnesses of the head and neck such as heaviness, pain in the ear and eyes, hiccups, discharge from ear, eye and nose, toothache, spasm in the jaw and neck, voice disorders, hair loss and so on. Illnesses of the head and neck (above the collar bone) are prevented by medicated smoke which is appropriate after bath, meals, vomiting, sneezing, brushing teeth, snuffing, application of collyrium and sleep. Each time, three puffs should be taken which will vary in frequency depending on whether it is for daily use or for evacuative therapy. When properly used, smoking cleanses the chest, throat and sense organs besides lightening the head and controlling the doṣas of vāta and kapha which dominate the regions of the head, neck and chest. In excess, smoking can cause deafness, blindness, dizziness and internal bleeding. These complications should be recognised and treated promptly. Smoking is forbidden after purgation and bloodletting, in pregnancy, emaciation, fatigue, diabetes, alcoholism, poisoning and injury, and after taking wine, milk, honey, fatty substances and food with curd.

While smoking one should sit comfortably with the body and eyes straight and the mind focused, and inhale thrice through one nostril while closing the other. Three such rounds are recommended. In routine smoking, the pipe should be 36 fingers long, while for head evacuation and lubrication the length should be 24 and 32 fingers. The pipe should be straight with three pouches and a tip sized like a jujube stone (Fig. 3.1). Smoking in this manner from a distance, broken by joints and reduced through a pipe does not harm the senses. When used as therapy, the smoke is inhaled through the nose for head and neck diseases, and through the mouth for throat disorders. When smoking through the nostrils, the smoke should be exhaled through the mouth. Exhaling through the nostril after inhaling smoke through the mouth is harmful to the eyes and is not advised.

A related practice is the use of medicated oil (aṇutaila) through the nose, which is advised twice a day in the early phase of the rains, autumn and spring. The formulation for aṇutaila is given in Table 3.1.

A regimen consisting of wholesome food and staying in a warm place without strong winds is mandatory when aṇutaila is used to remove the imbalance of three doṣas and to give strength to the sense organs.

Table 3.1

Formulation	Actions	Remarks
Candana, agaru, patra etc., ending in padmakeśara (27plants)	Subdues the perturbation of three doṣas; strengthens sense organs	Boiled in rainwater hundred times and concentrated; the decoction cooked in oil ten times and goat's milk added in the tenth round, applied nasally every third day after lubricant therapy and fomentation

Fig. 3.1 Medicated smoking: note the pipe with three pouches.

FOOD[6]

The ritual of taking food is more than eating and should conform to etiquette and ritual. Eating without having a bath or without wearing jewels on the hand, reciting mantras, or making offerings to the fire, forefathers, preceptors, guests and dependents is not a mark of good conduct. No less objectionable is

to eat without washing hands, feet, face and rinsing the mouth. Food served by hungry, unclean attendants in dirty plates, in crowded or uncongenial surroundings should be avoided. Food left overnight is stale and should not be eaten; the exceptions are preserved meat, greens, dry vegetables and fruit. One should eat well and do full justice to the food except for curd, honey, salt, roasted grain flour and ghee. Taking curd at night is not wholesome; nor is gorging on grain flour washed down with water after meals.

The quantity of food for an individual depends on his power of digestion.[7] Light articles of food such as rice, pulses and meat of sārabha may not cause indigestion even if taken to the full because they stimulate the power of digestion (agnibala) thanks to their dominance by vāyu and agni. On the other hand, heavy items such as grain flour, black gram and meat of aquatic creatures may cause indigestion even in lesser quantities as they are dominated by pṛthvi and āp which are heavier than vāyu and agni. They fail to stimulate digestion except in those whose digestive power is enhanced by physical activity. A practical policy is to restrict the intake of heavy items to a third or half of the point of satiety: this applies equally to light articles in order to maintain the digestive power at the right level. After dinner, one should refrain from eating heavy food such as grain flour and flattened rice. Dried meat and vegetable, lotus tubers, milk products, pork, beef, buffalo meat, fish, curd, black gram and yavaka are unsuitable as staple food. The meat of emaciated animals is forbidden from the menu. For regular intake, rice, pulses, rock salt, fruits, barley, rainwater, milk, ghee and honey are preferred. The watchword is to eat such food everyday that would ensure good health and prevent diseases.

Sexual intercourse

Sexual intercourse should be enjoyed subject to certain restrictions.[8] It is forbidden with women during menses and with those suffering from diseases,with those of inauspicious looks, lacking in desire or desiring other persons. Sexual contact with animals and organs other than sex organs is no less objectionable than intercourse in locations such as places of worship, raised platform surrounding trees, crossroads, cremation ground, place of execution, medicine store, houses of brāhmins and teachers and places lacking privacy. Timing is important because intercourse is improper when one is unclean or exhausted or fasting, on sacred days, during sunrise and sunset, after a heavy meal, while libido or erection is poor, or a call of nature is pressing. Also, too much or too little sleep is not conducive to sexuality or good health.

General conduct

Overall a certain code of conduct should be followed.[9] Physical activity should be the norm but it should not be carried to the point of exhaustion. Travel in unsafe vehicles, climbing trees and unfriendly mountains and swimming in swift currents should be avoided. When walking outdoors, squalid places should be avoided; wearing headgear and carrying a stick and umbrella is recommended. A watch should also be kept for up to six feet of the path ahead. Footwear should be worn as it prevents injury to the feet, and promotes strength and virility. An umbrella provides protection against the sun, rain and dust and gives a measure of strength during travel. A stick guards against slipping, removes fears and helps in warding off enemies. The aim of all these measures is to enable a wise individual to look after his body even as a city manager or a charioteer would, mindful of their duty, safeguard the city and chariot.

In company, one should desist from habits which violate decorum. Laughing loudly, picking the nose, grinding teeth, yawning, sneezing and laughing without covering the mouth, releasing wind noisily, urinating on the road, in the wind or in crowded places, coughing out phlegm in public, blowing the nose during studies and similar acts are forbidden. In social exchanges, words should be appropriate, to the point and chosen with care. Women should not be the object of neglect or insult, but it would be prudent not to give them authority or to confide secrets in them.

BEYOND DAILY ROUTINE

A code of conduct goes beyond daily routine. One should never tell a lie or covet another's property or woman, pry into another's secrets or speak of defects, or be inimical to anyone. The company of the wicked, the abortionists, the insane and those guilty of treason should be avoided. Rashness and the company of the disgraced predispose to harm; so does making friends with boys, the old, the miserly, fools and eunuchs. Guarding against the temptations of wine, gambling and persons of loose morals is as much a mark of wisdom as the lack of conceit and envy. Insulting brāhmaṇas, picking up a stick to thrash a cow, abusing the preceptor or the old, speaking too much or out of turn and throwing out relatives and others who have stood by one in hard times are violative of a noble code. Neither diffident nor overconfident, one should be generous to kin and attendants without confiding too much in others or being suspicious of everyone. Procrastination is as objectionable as espousing things without due consideration. Nothing justifies living under the permanent shadow of grief or scandal. Confident of the effect of every cause one should always seize the initiative and never lose courage.

Rectitude, virtue, insistence on effort and indifference to result, fearlessness, modesty, courage, forgiveness, skill and faith should be the guides for one's conduct. Kinship to all forms of life, conciliation of the angry, help for the poor, truthfulness and tolerance of harsh language would ensure that an individual is at peace, has overcome the powerful temptations of desire and anger and is no longer a slave to his sense organs. Elation in success and depression in failure should give way to equanimity in one's attitude and constitution.

TRADITIONS

A code of conduct must keep in step with traditions and customs, giving up tradition altogether is not conducive to harmony.[10] One should not cross the shadows of relatives or noble people, look at lightning, cut grass or poke into earthen mounds, make morbid noises at the sight of a corpse, stay till late at night in temples, cremation grounds or places of execution, or go alone into a deserted house. While leaving the house one should touch gems, ghee, flowers and the good-hearted, and make sure that the respectable and auspicious are not on one's left side. It is unwise to move about in the dark at night.

CONCLUSION

The code of conduct holds the key to life's harmony. Living by the code, one obtains good health and mastery over one's senses. Such an individual lives in good health for a hundred years, earns the praise of noble people, spreads fame in the world, acquires merit and wealth, becomes a friend of all living beings and, in the end, finds a place in the other world of the virtuous. All said and done, there may be codes of virtuous conduct honoured by traditions elsewhere that are not stated here. These are

valid too.[11]

4 *Life in Accord with the Seasons*

The seasons are marked by fluctuations in strength.

Life on earth is controlled by the movement of the sun. Life events would suggest that time, seasons and three bodily components (the essence of digested food, doṣa and strength) are governed, in the final analysis, by the sun, wind and moon.

Time measured as a year has six seasons. śiśira, vasanta and grīṣma characterise the summer solstice when the sun progresses to the north of the equator and brings about a period of drawing up (ādāna). The rest of the year consists of varṣa, śarat and hemanta which coincide with the winter solstice when the sun moves south of the equator. This period witnesses the release of whatever was drawn up earlier. During ādāna, the sun draws moisture through hot and rough winds and progressively increases the quality of roughness in substances as it progresses from śiśira to grīṣma. A consequence of this drying and roughening process is the augmentation of rasas - bitter (tikta), astringent (kaṣāya) and pungent (kaṭu) - which share the quality of roughness, and a decrease in body strength. In contrast, the sun's power is lessened during the southward course by the clouds, winds and rain during varṣa, śarat and hemanta. The heavenly showers cool the earth, the moon gains ascendancy and the rasas - sour (amḷa), salty (lavaṇa) and sweet (madhura) - which have the opposite of rough quality dominate. As a result, the body gains in strength.

Thus the seasons are marked by fluctuations in strength. During ādāna, the body strength is highest in śiśira, medium in vasanta and lowest in grī ṣma; during visarga or release, it is the highest in hemanta, medium in śarat and lowest in varṣa.[1]

LIFESTYLE TO SUIT THE SEASONS

In hemanta (winter), the cold wind retards the release of body heat and enhances the digestive fire; even food heavy in quality and quantity becomes digestible. If adequate food is not available, the digestive fire consumes body rasas and causes vāta disturbances that are commonly seen in the cold season. Therefore during hemanta, oily, sour and salted products of the meat of creatures living in water, marshy land and burrowed holes are appropriate, and may be followed by wine, vinegar or honey. Dairy products, cane juice, oil and hot water do no harm in hemanta. Massage, application of

oil to the head and body, living in heated rooms or the cellar, are also beneficial. To keep oneself warm, seats and beds should be covered with thick cloth or quilt made of wool, silk, hide and leather; travel should be undertaken by carriage. Applying aguru paste to the body gives comfort. The onset of śiśira heightens libido. When snow falls and winter deepens, exposure to frosty winds should be avoided. Other things to be avoided include light food and drinks that may enhance vāta, cold drinks, insufficient intake of food and eating pungent, bitter and astringent foods.[2]

In spring, the rising heat of the sun perturbs body fat. This may cause various disorders which can be prevented by evacuative procedures like emesis, avoiding a diet which is heavy, sour, oily and sweet and day sleep. Physical activity, bath and gargles with warm water, use of collyrium and medicated smoke, and sporting of flowers are desirable. Application of sandal and aguru paste to the body, diet with barley and wheat as staple and meat of rabbit, deer, quail and partridge, and wine would also add to the sense of wellbeing. Spring is also the season to savour youth and beauty, and the woods.[3]

When the season changes to summer, the hot rays of the sun capture the waters of earth and alter the composition of substances. Sweet, cold, liquid and fatty food and drinks are then appropriate. To prevent disorders, a diet consisting of the meat of wild animals and birds, dairy products and rice, and cold and sweet drinks are advised. Physical exertion, wine in large quantity and salted, sour, pungent and hot food are better avoided. Sleep in the cool interior of the house during the day and on the roof cooled by moon's rays during the night are pleasant.

To enjoy the breeze from a fan dipped in sandal water and to wear jewels on the hand add to the joys of living. When summer heat advances one should walk in the forests,beside lakes and rivers and enjoy flowers in bloom. Sexual intercourse is inappropriate at this time because of body weakness.[4]

The body and its power of digestion weaken during the heat of summer. The weakness of digestion spills over into the (following) season of monsoon when vāta-related disorders also assail the body. Therefore, a quiet and leisurely lifestyle is the ideal in the monsoon season. This involves abstention from drinking cold water and river water, day sleep, physical exertion, exposure to strong sun and sexual intercourse. When the days are cool with rain and wind, drinks mixed with honey, sour and salty food taste and fatty additives are useful for vāta-related troubles. To retain digestive power, special foods such as old barley, wheat, rice and meat of game should be included. Drinks could be small quantities of wine of various kinds, rainwater or water from well or tanks, that has been heated and cooled. Living in a dry place protected from rain, one should also regularly apply oil to the body, bathe, wear simple, clean clothes and sport garlands of flowers.[5]

When the body accustomed to rain and cold is suddenly exposed to the heat of the sun in autumn, pitta gets perturbed. The corrective measures are mainly dietary and consist of sweet, light, cold and mildly bitter food and drinks. For regular intake, meat of common quail, partridge, deer, sheep and rabbit, rice, barley and wheat are suitable. Oil, meat of aquatic and marshy animals, alkalis, curd, day sleep and easterly wind are to be avoided. Medicated ghee, purgation, bloodletting and avoidance of the hot sun may have a role in controlling disturbed pitta. Sporting flower garlands, wearing clean clothes and enjoying the moonlight are a source of pleasure. Water heated by the sun's rays during the day and cooled by the moon's rays during the night, brewed by time, and purified by the star Agastya is faultless and known as 'water for the swan' (hamsodakam). This is excellent for bathing, swimming and drinking.[6]

When all is said and done, an individual may have come to a perfect adjustment through the long use of a given lifestyle, which is known as okasātmya. This too makes for wholesomeness because it embraces personal idiosyncracies as well as local circumstances (including climate).

5 *Suppression of Natural Urges; Comments on Physical Miscellany*

The suppression of natural urges is fraught with wideranging consequences.

SUPPRESSION OF NATURAL URGES[1]

The natural urge to eat, drink, sleep, breathe rapidly following exertion, to pass urine, stools, wind or semen, to sneeze, cough, vomit, yawn or shed tears represents the operations of the body economy which uses internal and external resources and constantly receives and rejects. The suppression of natural urges is fraught with wideranging consequences. A summary is given in Table 5.1.

Table 5.1

Suppressed urge for	Clinical signs and consequence	Elements of therapy
Urine	Pain in the bladder region and groins: difficult urination; headache	Fomentation, massage, tub-bath, enema: urethral intubation
Feces	Colic: retention of stools and wind, leg cramps	Fomentation, massage, tub-bath, suppositories and enemas

Semen	Pain in the genitalia, bodyache, urinary obstruction, pain in the heart region	Massage, tub-bath, wine, non-lubricant enema, sexual intercourse
Wind	retention of stools, urine, abdominal distension, vāta disturbances	Lubricant therapy, fomentation; food and drinks, enemas
Vomiting	Skin rash, itching, loss of appetite, swelling, pallor, fever, cellulitis	Emesis after fasting or rough diet, physical activity, purgation
Sneezing	Neck rigidity, headache, facial weakness, weakness of sense organs	Massage of head and neck, fomentation, smoking, vāta-relieving diet, nasal application of drugs
Eructation	Hiccup, shortness of breath, loss of appetite, tremor, oppressive feeling in the heart region	Similar to the management of hiccup described elsewhere
Yawning	Doubling of the body, seizures, tremors	Vāta-relieving measures
Hunger	Debility, weakness, poor complexion, loss of appetite, dizziness	Warm, light and oil-based diet
Thirst	Dry mouth and throat, deafness, exhaustion, pain in the heart region	Cold and rich drinks
Tears	Nasal congestion, eye disease, loss of appetite, heart disorders	Sleep, wine, cheerful company
Sleep	Yawning, bodyache, drowsiness, heaviness in the eyes	Gentle massage of the body
Rapid breathing following activity	Gaseous distension of abdomen, heart disorders, fainting	Rest: vāta-relieving measures

Although in general suppression of urges is not advised, there are exceptions: unholy tendencies in thought, word and deed.[2] Avarice, sorrow, fear, anger, pride, impudence, jealousy and covetousness are examples of the urges which sway the mind; harsh, incorrect and untimely words and lies exemplify the false urges in speech; the corresponding urges in deed are adultery, theft and violence. The righteous in conduct would check these urges to enjoy the three fruits of life.

PHYSICAL ACTIVITY[3]

Physical activity increases the toughness and strength of the body and should be welcomed within reasonable limits. It produces additional effects such as the feeling of lightness, zest to work, tenacity, diminution of doṣas and enhancement of digestive power. But, carried beyond limits, physical activity causes exhaustion, loss of weight, severe thirst, vomiting, internal bleeding, cough and fever. Too much physical activity is therefore no more desirable than too much talking, sexual intercourse, or night vigil. Indeed, those who suffer from wasting due to excessive indulgence in sexual activity, heavy manual work such as carrying loads, evacuative therapy or emotional disturbances should desist from physical activity. So should children, the old with vāta troubles, those who habitually talk too much and too loudly, and others with hunger and thirst.

In these discussions, several unwholesome activities and habits have been identified for disapproval. What should be the line of management for a person who has developed an unwholesome habit? Also, how should one cultivate a sound habit? Both processes should, in fact, be carried out gradually. In an acceptable regimen, no more than a quarter of the process of giving up of a bad habit and the acceptance of a good habit should be done initially. On the next day, and at subsequent instalments after two and three days, the remaining three-quarters of the process should be accomplished. Calibrating the riddance of an unwholesome habit as well as the uptake of a good habit is conducive to stable results.

BODY CONSTITUTION[4]

Inborn characteristics determine the constitution of each individual. When vāta, pitta and kapha are in balance, the individual tends to remain healthy from birth. Doṣas are dhātus when they maintain balance and sustain the body; they become malas when perturbed and cause disorders. If one of the doṣas dominates over the other two, the body constitution becomes vātala, pittala or ślē ṣmala on the strength of the dominating doṣa. A doṣa-dominated constitution predisposes one to diseases. Moreover, the body constitution has a bearing on treatment because all rasas are compatible with the individual whose doṣas are in balance whereas those in whom one or other doṣa is dominant should be administered diet and medication with rasas opposed to the dominant doṣa.

There are malas other than doṣas which can cause morbidity. When disturbed or excessive in quantity malas may obstruct the seven orifices in the head (where the sense organs are located), the anal or urinary openings or the innumerable openings in the skin. Increase or decrease in the level of malas from food (āhāra malas) are indicated by signs such as a sense of heaviness and constipation on the one hand and a feeling of lightness and easy passage of stools on the other.

As diseases strike those who neglect a code for healthy living, it is incumbent on sensible people to follow the code. This would include the elimination of accumulated doṣas by the administration of emetics, purgatives, enema and nasal evacuation during the first month of spring, rainy season and winter. The evacuative measures should always be given after lubricant therapy and fomentation. Thereafter, appropriate tonics in the form of rejuvenant therapy and preparations for virility should be given. These measures will settle the dhātus and retard ageing which may be a result of the imbalance of dhātus.

When disorders are apparently caused by external agents such as insects and animals, poison, wind and fire, the underlying cause may be imprudent conduct. This may also account for jealousy, sorrow, fear, anger, pride and hatred. Renouncing irrational behaviour, control of sense organs, retaining a memory of events, awareness of time, place and self, and observing good conduct are the means for

the prevention of diseases caused by exogenous factors.

Finally, understanding and observing the instruction of authorities (āptas) will prevent illness and provide relief from them. The company of the virtuous, those full of years and wisdom, good conduct, equanimity, tranquility and freedom from cares, should be sought in humility and cultivated because their words (and the very sight of them) are auspicious. The right-minded who aspire for happiness here and hereafter should not only adopt a healthy diet and right conduct but also wholesomeness in action.

6 *The Medical Quartet*

It is preferable to die than be managed by an ignorant physician.

Caring for the sick demands a quartet - physician, medication, helper and patient - each possessed of special qualities.[1] They resemble the four legs of an animal who is disabled by the defect in any member. Illness sets in due to imbalance of doṣas even as the balance of doṣas makes for health. In other words, illness signifies misery, and health signifies happiness. All the four members of the quartet seek to restore the balance of doṣas from imbalance. This is known as therapy; it facilitates the natural and spontaneous swing of nature from disorder to order. However, the success of the effort depends on each member of the quartet possessing special qualities. For the physician (vaidya), theoretical knowledge, wide practical experience, manual skill and cleanliness are essential qualities. Medications including items of diet should be plentiful, efficacious, amenable to formulation in different forms and resistant to pests and other noxious agents. Besides knowing how to prepare diet and medications and nurse the patient, the helper must be dextrous, loyal and maintain hygiene. The patient needs to have good memory to recollect the circumstances of illness, fearlessness, candour and willingness to comply with medical instructions. Among the quartet, the physician is the most important not only because of his knowledge but also because of his role as a leader and coordinator. Utensils, fuel and fire cannot prepare food without a cook just as a victorious land even with army and weapons cannot win a battle without a general. The role of the physician as a team leader is no different.

Physicians may be learned and wise, or they may be ignorant. When the learned physician heads the quartet, even fearsome disorders vanish. An ignorant physician, on the contrary, worsens even mild illnesses inspite of the teamwork of other members. It is preferable to die than be managed by an ignorant physician. Lacking knowledge and confidence, an ignorant physician flounders like a blind man groping for way or a boat tossing in a storm. He may cure a patient who is destined to live long but will take the lives of hundreds whose life span is uncertain. Among physicians, a qualified physician *(prā ṇābhisara)* has theoretical and applied knowledge and practical skill:the royal physician ranks even higher because he knows not only the cause, symptoms and remedies but also the prevention of diseases.[2]

Only good physicians can precisely distinguish mild illnesses from severe ones even though to the inexperienced eye the mild one may present as severe and vice versa. A physician who recognises a disease in part can only prescribe partial treatment (at best) or dangerous treatment (at worst). For example, if he mistakes a mild disease as being severe and prescribes vigorous evacuative therapy the patient is certain to suffer. On the other hand, if a severe disorder is misjudged as mild and a mild evacuative drug is administered the doṣas will be further aggravated. The wise physician never

makes such grave mistakes in recognising and treating ailments.[3] Weapon, knowledge and water depend on the user for producing good or harmful results. Since the physician is a user of medical knowledge, he is obliged to sharpen his intellect for the treatment of patients. Theoretical and applied knowledge, critical approach, retentiveness, loyalty to patients and a capacity to work make nothing unachievable for a physician. In isolation, auspicious qualities such as learning, wisdom, applied knowledge, practical experience, special ability and popular acclaim do not entitle one to the designation of a physician: together, they win for an individual the honourable tide of Vaidya' who radiates happiness to all living beings. Authoritative texts shed light and enable one's intellect, so to say, to see and comprehend so that no mistakes are made in the treatment of patients. Given that three members of the medical quartet depend on the physician for leadership he is obliged to strengthen his auspicious qualities. The guiding principles for him should be friendship and compassion towards the ill, joy in treating those whose illness is amenable to therapy, and resignation towards those whose disease is incurable.[4] These are indeed the four yogic *vṛttis* or qualities (*maitri, karuṇa, mudita and upekṣa*) transferred to the practice of medicine.

MEDICAL CLAIMS - A BOAST?

Physicians claim that the medical quartet and the appropriate treatment of illness can restore good health. This claim calls for investigation. One sees patients who have the the requisite qualities, medication, helpers and learned physicians; some of them recover but others do not. Does this not suggest that the therapy given is devoid of merit? It would appear to be as pointless as pouring a little water in a pond or throwing a handful of dust in a river. Then again, does one not come across patients who neither have noble qualities nor the assistance of the other members of the quartet and yet recover from illness, while some others among them succumb? It would seem that treatment and recovery are independent of each other and medical intervention is no different from non-intervention.[5]

This line of reasoning is flawed. The fact is that the quartet possessed of their qualities is never incapable of managing curable diseases. Curability holds the key to the success or failure of therapy. Partial treatment may succeed much like a man fallen in a ditch and managing to get up on his own is assisted by a helping hand.That does not imply that complete treatment is ineffective. There are diseases which are incurable, and the medical quartet possessed of all their qualities can do nothing against them. Even a learned physician is powerless in saving a dying patient. However, most patients with curable diseases seldom recover without appropriate treatment. The wise physician acts after a careful study of all circumstances and succeeds like an informed and skilled archer who never fails to hit a large and not too distant object. Experience confirms the efficacy of medical treatment that follows a standard line. A diseased individual is treated with disease-alleviating measures.For example, the wasted are managed with anti-wasting therapy; the weak and emaciated with building; the overweight and obese with reduction; those affected by elemental cold and heat with measures of heat and cold. In short, the deficient dhātus are supplied and excesses removed. The cardinal principle is to restore health by treating disorders with a formula that is opposed to their causation.[6]

FORECASTING OUTCOME

It bears repetition that a wise physician never loses sight of the outcome of treatment and is ever conscious of the division between the curable and the incurable.

There are further subdivisions of the curable as they may be easily curable or curable with difficulty, capable of only palliation, mild, moderate or severe. For the incurable, of course, subdivisions are redundant.[7] Since the forecast of outcome is so vital, what are the signs of curability? There are, in fact, many. Causes, prodroma and manifestations are unremarkable; the qualities of doṣa and dhatus assailed by doṣa (dū ṣya) are unequal in the body constitution to the advantage of dūsya, and remain so at the time of illness: one doṣa alone is primarily disturbed, the trouble is of recent onset, complications are absent, the body is strong enough to accept therapeutic measures, and the place for treatment offers no difficulties: all these bode well for the outcome.

In diseases that are curable with difficulty, another cluster of circumstances operates: the cause, prodroma and symptoms have medium severity,; any one of the qualities of doṣa and dūṣya is equal to the detriment of dūṣya at the time of illness, the patient is pregnant, old or a child, complications are not many, surgery or cauterisation is needed, onset is not recent, the disease location involves vital parts and one or two body passages, two doṣas are disturbed and the medical quartet is not available in full.

Although ultimately incurable, some disorders are amenable to palliation.[8]Here, the disease affects two doṣas and more than one dhātu; it is deep-seated and chronic, and involves the vital organs and joints. Palliative measures consist of a regimen which does not improve the life span but offers some degree of comfort and relief. However the disease may flare up again by even mild provocation.

The incurable illness witnesses the derangement of the three doṣas, involves all body passages, causes anxiety, listlessness or delirium, devastates the sense organs, saps strength and resists all therapeutic measures. Therefore, in the first place, a wise physician should examine all the disease manifestations and initiate appropriate treatment only for the curable.[9] Those attempting to treat the incurable will reap ill-repute and censure, and forfeit wealth, learning and popular esteem.

7 Three Desires, Means of Knowledge and Some Triads

The desire for life comes first because the loss of life amounts to the loss of everything.

THE THREE DESIRES

A person with a normal share of strength and combativeness, who is of sound mind and concern for things here and hereafter is moved by three desires. These are the desire for life, for wealth and for life hereafter.[1] The desire for life comes first because the loss of life amounts to the loss of everything. To ensure good life and health, the observance of a code of conduct is necessary just as careful attention needs to be paid for the proper care of illness. The pursuit of wealth comes next because wealth takes second place only to life. There is scarcely anything more miserable than a long life without the means to live. One should therefore work hard to make a living by engaging in farming, animal care, trade, service and similar occupations. The third desire concerns life in another world after death, which does indeed raise many doubts.

Will we be born again? Those who accept only perception as evidence deny rebirth which is imperceptible. Others uphold rebirth on the basis of differing textual statements,[2] such as the cause of birth is limited to the role of parents, or birth is a simple natural phenomenon, or is caused by an extraneous creator, or happens by pure chance. The question of rebirth is therefore fraught with uncertainty. What then, should be the position of a wise person? Should he be hesitant or negative? Not at all. The perception of things that exist may after all be flawed by objects being too small, too near or too far, by being covered, by the weakness of sense organs, by the mind being inattentive or confused by similar objects. Therefore, perception alone cannot be the means of knowledge.[3]

Authoritative statements, on the other hand, lose acceptance when they contradict reason.[4] Consider the textual position on the parental role in rebirth. If the self of either parent migrates to the fetus it must move either wholly or in part. If the migration is in whole, the parent should lose his or her life. If the migration is in part, the self has no parts and a transfer in part is impossible. The view on the transfer of parental self to the offspring would also conflict with the fourfold origin of animals and the transmigration of self across species.[5] What applies to the transfer of self applies to the intellect and mind as well.

What about an external creator? Although the living being consists of six dhātus - the five constituent of matter, and self-their union and separation are the result of action which is inherent in them: it is hardly reasonable to postulate an external agency for the act of creation.[6]

Lastly, those who reject rebirth on the argument that the cause is imperceptible and claim birth to be the result of pure chance are nihilists whose understanding is warped. They recognise no role for examination, examinee, doer, causation, gods, saints, savants, action and its result, or self. Holding such a nihilistic view is the worst among sins.[7] The wise should keep away from the nihilistic path and see things as they are in the light of the lamp of wisdom held by great minds.

MEANS OF KNOWLEDGE

Those that exist and do not exist are examined by four methods: authority, perception, inference and reasoning.

AUTHORITY (ĀPTOPADEŚA)

A physician must learn from wise persons or predecessors lest he is condemned to repeat earlier mistakes in the effort to learn on his own. However, to qualify as an authority, mere possession of knowledge is not enough. The qualifications include freedom from rajas and tamas, the power of austerity knowledge that spans the past, present and future, discipline and wisdom. These authorities are incapable of lying, and their words leave no room for doubt.[8] Scriptural revelation is also admissible as authority provided it does not conflict with reason. Authority covers the manifold aspects of diseases such as aggravating factors, disease process, causation, specific features, location, chief complaint, symptoms and signs, complications, aggravation/stasis/improvement and the forecasting of outcome.[9] The instructions of authority facilitate the recovery of good health and order.

PERCEPTION (PRATYAKṢA)

Sense perception arises from the contact of sense organs with objects and involves the senses (indriyas), their objects (arthas), contact of senses with objects (sannikarṣa) and cognition from the contact (jñāna).[10] The cognitive process involves the mind (manas) which couples the senses with the self. Imperfect as it is, perception nevertheless plays an important role in medical diagnosis. Except for the sense of taste, all senses contribute to the examination of a patient. Voice, sounds produced by joints, gurgling of intestines and other body sounds reach the ear; colour, shape, appearance and other visual characteristics greet the eye; smell, normal and abnormal, from all parts of the body hits the nose; touch (including hot and cold and normal and abnormal) lends itself to palpation. Taste alone must be tested indirectly by watching flies approaching a diabetic or observing phenomena such as vomited blood being eaten or shunned by crows and dogs.[11]

INFERENCE (ANUMĀNA) AND REASONING (YUKTI)

Inference is used to understand what exists beyond the domain of perception. It is, however, preceded by perception because, in the absence of the observation, for example, of the relation between fire and smoke it is impossible to infer the existence of fire from the sight of smoke. Inference has three types and three tenses: the consequent from the precedent, the precedent from the consequent, and one member of a pair of complementarities from the other.

Inference is constantly used in the psychosomatic domains of medicine, and there are numerous examples for the three kinds of inference:[12] grief from anguished look, fear from anxious expression,

memory from recollection, digestive fire from the state of digestion and strength from the capacity for exercise. Inferring the precedent from the consequent is illustrated by sexual intercourse from the onset of pregnancy; consequent from the precedent by fruit from the seed; and a member of a correlative pair by fire from smoke. The ambit of inference incorporates comparison when, for example, the growth of the fetus from six dhātus is regarded as an analogue of the growth of crops from a combination of water, planting, seed and climate. Or the instance of fire which results from the conjunction of the member to be churned, the churning process and the churning stick. This is similar to the way in which the medical quartet works to relieves illness. But the faculty which sees through different things and identifies the underlying cause is reasoning (yukti) which operates in all three tenses of inference.

REBIRTH

Rebirth has been endorsed by the ancient sages who were free from fear, attachment, aversion, greed, delusion and pride, who had imperturbable minds and intellect, who possessed authoritative knowledge, and had seen the reality of rebirth through their divine eye.[13] One should therefore have no hesitation in accepting the reality of rebirth. The ultimate authority as a means to knowledge is the Veda, or other scriptures which do not contradict the Vedas but were composed by erudite scholars and approved by savants. Scriptural authority assures wellbeing to those who observe charity, austerity, religious practices, truthfulness, non-violence and self-control, and stipulates that freedom from rebirth is not possible for those who have not conquered the vices of the mind.

Regarding rebirth and perception, there are other observations which should attract attention: children differ from parents in colour, voice, appearance, mental and intellectual ability and fortunes in spite of a shared origin. They are born in high or low society, or to wealth or poverty or with healthy or morbid disposition or unequal longevity They have the instinct to cry, suck the breast, laugh or take fright without prior training; they have birthmarks and strange intellectual interests or lack of them suggesting the reappearance of persons who had died, and they take a fancy or dislike to similar-looking individuals for no obvious reason.[14] Again, identical effort is attended by dissimilar outcome.

Similarly, it is possible to infer that one's action and its reaction are firmly fixed; they can neither be prevented nor done away with. Fate is the fruit which has matured of the seeds sown by the previous body. This cycle will be repeated in future births as well. As inference makes it possible to identify the precedent from the consequent, the sequential relationship between the seed of action and the fruit of future birth can be inferred.

Reasoning also helps. The fetus results from the conjunction of the six dhātus, the conjunction itself being impossible without a doer, instrument and action. Unperformed action cannot account for the conjunction of fetal dhātus any more than a sprout can emerge without a seed. The seed also accords with specific action even as one seed gives rise to only its plant and no other.[15]

Having established rebirth by the four means of knowledge, what should be the next step? It should prompt one to lead a noble life as prescribed by the scriptures. Its features are the service of the preceptor, study, performance of rituals, marriage, and raising of children, looking after servants and serving guests, generosity; non-covetousness, austerity, non-enviousness, gentleness in the use of the body, speech and mind, introspection over the actions of the body, mind, objects of sense organs, intellect and self, and lastly, meditation. One should also engage in acts that are not forbidden by the

wise, which are conducive to heaven and aimed at securing a prosperous and full life. This course ensures high repute in this world and a place in heaven, and enables one to fulfil the third desire for a good life hereafter.

DISEASE AND TREATMENT: SOME TRIADS[16]

Tripod of life

The mind, self and the body are the primary pillars of the tripod which supports life. There are three secondary pillars: diet, sleep and control of senses. When they are in order and are used rationally, the body grows and remains healthy, strong and good-looking till the alloted life span is over.

Strength

Strength is of three kinds: inborn, bestowed by time and acquired. Inborn strength applies to the body and mind and is one's natural endowment; time increases or decreases strength through the effect of seasons or ageing. Acquired strength is what one gains through appropriate food, physical activity and rasāyana.

Causation of disease

There are three causes underlying diseases: overuse, non-use and misuse of the objects of senses, action and time. For example, for the sense of vision, these would be fixing the eyes on a radiant object, not seeing anything at all, seeing things that are too close or too far, or very fearful, strange, loathsome or maimed. The corresponding examples for the auditory sense would be hearing the deafening sounds of thunder and drums or loud screams, not hearing anything at all, hearing caustic or threatening words, or those which convey the news of the death of dear ones, of ruin or of insult. The olfactory sense would be overused by smelling pungent, acute or offensive smells, not used by smelling nothing at all, misused by smelling putrid, vicious, rotten or poisoned air. Similarly, the gustatory sense would be overused by consuming too much of various tastes, not used by tasting nothing at all, or tasting unwholesome food for the given season and constitution. Exposure to extreme cold and heat, frequent and repeated baths, massages and oil application would be examples of the overuse of the tactile sense; not to experience any contact on the skin would be non-use, and inappropriate exposure to hot and cold, or injury, or contact with rough or filthy things would be examples of misuse. The tactile sense is unique because it pervades all sense organs, and the mind in turn is inherent in the tactile sense. The mind also is therefore pervasive. When the generalised effect on all senses produced by the tactile sense is injurious, it is recognised as the result of the discordant connection of sense organs with their objects. When the connection is made appropriate harmony is restored.

Action

Action could be of the body, of speech and of the mind. Here again, excessive use, non-use and misuse are observed. Misuse of the body occurs in many ways such as the suppression or forcing of natural urges, practice of abnormal positions and breathing, and torturing the body. The misuse of speech manifests in lying, harshness, irrelevance, using words of deception, talking at the wrong time, holding forth in a hostile manner and verbal strife. Fear, anguish, anger, greed, delusion, pride, jealousy and wrong perception characterise the misuse of the mind. The threefold misuse of body, speech and mind represent collectively imprudent conduct.

Time

Time is reckoned in terms of winter, summer and rains in a year; each season is characterised by cold, heat and moisture. When these characteristics overwhelm a given season they produce overuse; when they fail or are deficient there is non-use; and when the opposite characteristic appears in a given season misuse of time occurs. Time also directs the process of gradual change. In fact, the wisdom of the proper use of sense objects, avoiding the extremes of non-use and overuse as well as misuse, and the appropriateness of the time factor apply to the existence of all living beings as they do to the humans: only death can result from the erroneous use of sense objects and time. To conclude, the discordant connection between sense objects and organs, imprudent conduct and the operation of gradual change are the causes of disorders; restoration of wellbeing is brought about by their harmonious connection and good conduct.

Diseases

Diseases are of three types - inborn, exogenous and psychological. Inborn diseases are caused by the derangement of body doṣas; exogenous are produced by external agents like spirits and organisms, poisonous air, fire or trauma. Psychologic causes of disease are desires remaing unfulfilled or taking an undesirable shape. Disorders of psychologic origin need to be treated differently from those of other types. Therefore the wise should closely examine what is appropriate and agreeable in contrast to the inappropriate and disagreeable, and pursue the former in seeking virtue, wealth and pleasure. Without these three values there can be no happiness or unhappiness in this world, and their right pursuit is necessary to counteract the forces behind psychological disorders. One should also commune with savants and introspect, as far as possible, on one's self, place, family, time, strength and state of knowledge. To summarise, the treatment of mental illness consists of the right approach towards virtue, wealth and pleasure, association with the learned, and reflection on the nature of the self and allied entities.

Disease channels

The body has three channels for the movement of disease. They exist on the surface, along the vital parts and joints inside, and in the great channel extending at the core from the mouth to the stomach, intestines and anal orifice. The surface channel runs on the skin and incorporates fluids moving therein including blood; the middle channel is home to many vital organs - heart, urinary bladder, head, bone and joints where ligaments and tendons join. The great channel at the core extends from the mouth downwards and includes the stomach and intestines. Diseases manifest differently in the three channels. On the surface, such maladies appear as glandular swellings, boils, carbuncle, wart, ulcers, moles, leprosy, cellulitis, swelling - gaseous and piles and abscesses. Diseases traversing the middle channel come to light as paralysis of one side, convulsions, wasting, tuberculosis, bone and joint disorders, rectal prolapse and ailments of the head, heart and urinary bladder. When the core channel becomes the pathway, diarrhea, vomiting, flatulence, fever, cough, shortness of breath, hiccup, constipation, and enlargement of belly and spleen would appear. The internal consequences of cellulitis, swelling, gaseous swelling of the belly, piles and abscess may also be seen.

Physicians

Physicians are of three kinds: cheats, those of mediocre ability and those gifted with a physician's qualities. The cheats go about exhibiting baskets of drugs, books and sweet talk and claim the title of physicians. They are little better than idiots and tricksters. The mediocre pretend to be physicians of

affluence, fame and scholarship when they have none of these accomplishments. The genuine physicians, on the other hand, are gifted with the practical understanding of treatment, profound knowledge and wisdom. It is they who impart happiness and restore life.

Treatment

Treatment may be conducted in three ways: through sacred means, rational means and psychological methods. The sacred way prescribes the chanting of mantras, wearing of special herbs and precious stones, performing religious acts such as fasting, atonement, pilgrimage, surrender to gods, and offering oblations and gifts. The rational approach, on the other hand, consists of the proper administration of diet and medication. The psychological method calls for control of the mind and its withdrawal from improper objects. However, when a disease is caused by a disturbance of the doṣas, the treatment is confined to the body and to the three procedures (internal cleaning, external cleaning and surgical operation). Internal cleaning is achieved by medication and diet, which enter the interior of the body and settle disturbances of doṣas that are primarily caused by diet. External cleaning consists of oil massage, bath, steam bath, application of plaster and showers of various kinds. The list of surgical procedures includes excision, incision, puncture, rupture, scraping, extraction, scarification, probing, sewing and the application of alkali and leeches.

When ill, sensible people seek relief promptly by internal or external cleaning or surgical procedures. Owing to confusion or error, the immature fail to recognise the onset of disorder even as a careless person misses the approach of the enemy. Mild to begin with, the disease advances, strikes deep and saps the strength and life of the careless individual who fails to take note of his illness and seek remedial measures until he is a victim of great suffering. He would then beg his kin, wife and relatives to bring a physician - even at the cost of all he owns - who could save him when he is weakened and his senses are enfeebled, when he is racked by illness, reduced to emaciation and is dying. With no one to protect him, death claims him by force much like an alligator that is caught and dragged away by the tail by a strong man. Therefore those who desire happiness should seek appropriate treatment to counteract disease even before it appears, or at any rate when it makes its first appearance.[17]

8 *Lubricants in Therapeutics*

Just as a cloth absorbs water and releases the excess, a lubricant is absorbed by the body and the excess discarded.

LUBRICANTS

I11 health indicates the perturbation of doṣs and the breakdown, in greater or lesser degree, of their equilibrium. The treatment of ill health consists of settling the perturbed doṣs by measures such as fasting, physical activity and medication for improving digestive power. In more severe ill health, elimination of the perturbed doṣs would be mandatory. Lubricants have an important role in settling perturbed doṣs: their role as a preparative step to eliminative therapy is no less important. When doṣs are perturbed, lubricants in the correct form, dose and time dislodge accumulated doṣs from the dhātus and body channels and transport them to the central canal (koṣṭha), from where they are eliminated by procedures such as emesis and purgation. If administered correctly, lubricant therapy restores strength, reestablishes flow through the body channels and renews the vigour of the senses and the mind.

Lubricants exist in different forms. Pure lubricants (acchapāna) need to be distinguished from lubricants administered through the medium of other substances (vicāraṇas). Both may have their source in plants or animals. Starting with tila and ending with śigru, there are eighteen plant sources, and the corresponding groups among animals include fish, birds, quadrupeds which supply milk and milk products, meat, muscle fat and marrow.[1]

VARIETIES OF ACTION

Lubricants differ in qualities and action. Among vegetable products, sesame oil excels as it provides strength and ameliorates vāta; castor oil, on the other hand, is a purgative and an antidote to vāta and kapha disturbances. The range of animal products includes ghee and other dairy products, meat, muscle fat and bone marrow, each having its qualities, action and specific application. Of all lubricants, ghee, oil, muscle fat and marrow top the list. Ghee is the foremost because, apart from alleviating pitta and vāta, it cools and softens the body, improves voice and complexion and enhances the output of semen. It has the special merit of not losing its qualities while imbibing the qualities of

vegetable substances with which it is cooked. Oil settles vāta disturbances, enhances the strength and suppleness of the skin, and has a cleansing effect on the female genital tract. Muscle fat is useful in treating intestinal perforation, fracture, uterine prolapse, earache and headache, and promotes the virility and strength of those whose level of physical activity is high. Bone marrow has a positive effect on strength, semen, fat and kapha. It strengthens the bones.

There are times and seasons when a lubricant is especially beneficial. Ghee should be taken in autumn, muscle fat and marrow in spring, and oil in the early part of the rainy season. The extremes of cold and hot weather are not suitable for taking lubricants. In general, lubricants should be taken during the day, but there are exceptions. In the heat of summer and when vāta and pitta are disturbed, lubricants should be taken at night; in winter and when kapha is disturbed, daytime is preferable. If the appropriateness of seasons is ignored, the administration of lubricants may cause many disorders including colic, constipation, fainting, jaundice and delirium due to their improper digestion and assimilation. After taking ghee, oil, muscle fat or marrow, a drink of hot water is mandatory to stimulate gastric digestion. There are twenty-four media (vicāraṇas) such as meat soup, milk, gruel, sesamum paste, wine and enema fluid, through which a lubricant could be administered.[2]

CANDIDATES FOR THERAPY

The following persons need lubricant therapy: those who need fomentation and evacuative therapy, who are habituated to wine and women, and who perform hard physical or mental work. The inborn disposition of the body should be taken into account when choosing the lubricating agent.

Those with vātala-pittala constitution and those who desire intellectual power, clear vision, strength, long life, good voice and colour and offspring would benefit from ghee. Ghee is also beneficial for those who have suffered burns and other injuries, and women and children.

Those with excess of kapha are prone to obesity which may be particularly marked in the regions of the neck and abdomen. They are susceptible to vāta disorders and seek to reduce obesity, gain lightness, and improve firmness of the body and limbs and smoothness of the skin. They would benefit from taking oil in the cold season. Those suffering from worms and severe constipation are also candidates for oil therapy.

Those who suffer from vāta disorders and toil in the sun and wind, weakened by carrying weights, have reduced blood and semen, and are shorn of kapha and fat, are assailed by diseases of bone and joints, belly and vital parts. Given their strong power of digestion, they should be given muscle fat. Lastly, individuals who enjoy a ravenous appetite, habitually take fatty food, suffer from vāta disorders and constipation should be treated with bone marrow therapy.

ADMINISTRATION

Oil and other lubricants are often applied locally on the body, head or ear but local applications are excluded from the present discussion which relates to internal administration. This can take two forms. In small doses, lubricants like ghee and oil can be mixed with other substances and given orally: when tolerated well, larger doses are admissible in pure form. Although the lubricant is single, the six tastes can lead to 63 possible combinations; the addition of the lubricant would raise the total of vicāraṇas to 64. The substances which can be mixed with lubricants include many items of diet such as rice, gruel, milk, or meat soup. The choice of a given type of administration is determined

by the constitution and lifestyle of the individual, season and the nature of illness.

Basis of dosage

There are three doses which are prescribed according to the digestive power of the individual. The digestion of the maximum dose spans a day and night, medium dose takes a day, and the minimum claims half a day. Higher doses should be prescribed only after a smaller test dose had been given. Medium or maximum doses are employed as a prelude to evacuative therapy.

Those with good physical strength, who enjoy excellent digestive power, withstand hunger and thirst, and are used to oil-rich food, can take the maximum dose which is beneficial. This can be used for a variety of conditions such as gaseous distention of the abdomen, snake poisoning, cellulitis, urinary obstruction, epilepsy and severe constipation. Individuals who have average strength, consume a modest quantity of food, have easy movement of bowels and suffer from boils, skin conditions including leprosy, urinary complaints and vātarakta disorders can take a medium dose; this seldom causes complications. The infirm and old, children, those with weak digestion or suffering from diarrhea, cough and chronic fever should be given the minimum dose; this may be continued indefinitely without complications. Lubricant therapy is inadvisable for those who have accumulated fat and kapha, who need roughening or drying up, have excess secretion of saliva and rectal mucus, lack good digestion and appetite, suffer from vomiting, abdominal distention, food poisoning and severe weakness and in those who are depressed. The duration of lubricant therapy generally ranges from three to seven nights or until the evidence of proper lubrication becomes apparent. This includes good digestion and appetite, smooth passage of stools, suppleness of limbs, feeling of lightness, aversion to fatty food and clarity of sense perception.

Method of administering therapy[3]

On the day of the administration of lubricant substance in pure form as well as the day before and after, the subject should take warm, liquid and non-fatty food in moderate quality. A regimen should also be observed, consisting of the use of hot water, observance of celibacy, avoiding physical exertion, travel on foot or in vehicles, sleep during daytime and suppression of urges. If the therapy is aimed at quelling disturbed doṣs the lubricant preparation should be given when the person is hungry and during the course of the meal. If the purpose is to eliminate disturbed doṣs, the lubricant substance should be taken after the night meal is digested. The dosage also has to be adjusted.

The duration of therapy is determined by the bowel habits of the individual. For those with easy bowel movement and soft stools, a single lubricant substance is administered for three days while for those with hard stools the administration lasts for seven days. After the therapy has produced signs of adequate lubrication, those with soft bowels should be purged. This can be readily effected by several items including jaggery, cane juice, buttermilk, rice cooked in milk, grapes, wine, triphala or even hot water. Purgation is easy because their intestine contains excited pitta, a little kapha and slow-moving vāta. The response of those with hard stools is less prompt because their intestine contains aggravated vata.

If the level of pitta in the intestine is high and power of digestion is good, the lubricant dose may be digested quickly, and the digestive fire may attack ojas and give rise to severe thirst which must be quenched with copious drinks of cold water. If the thirst is less severe and associated with poor digestion, cold water should be given followed by emesis. Giving ghee alone is risky when pitta is in

excess lest it should cause systemic disturbance including loss of consciousness. If the therapy is incorrect, a variety of signs and symptoms would appear including nausea, constipation, drowsiness, fever, itching, skin disorders, abdominal distension and loss of consciousness. These complications should be dealt with by fomentation, emesis and purgation. Buttermilk, fermented drinks and triphalā may also be beneficial.

Once the signs of lubrication become evident after therapy, an emetic should be administered after a day and a purgative after three days to eliminate the perturbed doṣs which had been transported to the gut by lubricant therapy.[4]

Some individuals tolerate pure lubricants poorly; they have soft stools, take alcoholic drinks and avoid physical activity. For such people the lubricant should be administered in a medium (combining small doses of lubricants with other substances). These include meat soups of quadrupeds, birds and fish and mixtures of the soup with jaggery, sugar, pomegranate, curd, long and black pepper and ginger. The lubricant therapy of those affected by roughness should consist of jaggery, ginger and oil with wine. There are many other agents for vicāraṇas which should be designed to suit the individual constitution, specific disturbance of doṣs and the presence of disorders. The lubricant produces a quicker effect in the presence of salt which acts as an adjuvant in so far as it is fluid binding, penetrating, quickly absorbed and not rough. As a cloth absorbs water and releases the excess, a lubricant is absorbed by the body and the excess discarded.

9 *Fomentation*

Even a twig, dry and stiff, becomes soft and supple on the judicious application of oil and heat.

Fomentation is a part of settling the imbalance of doṣs of moderate severity and an essential prelude to evacuative measures. Even a twig, dry and stiff, becomes soft and supple on the judicious application of oil and heat. How much more then, would be the response of the body? Indeed, fomentation preceded by the application of oil, both in proper measure, corrects disorders of vāta and kapha and ensures the smooth passage of body fluids. It is done with moderate heat - neither too much nor too little - in a chosen location with appropriate medications. The kind of disease, state of the diseased and the season also weigh on the choice of the procedure. As a general rule, vigorous fomentation is suitable for sturdy persons and for diseases caused by cold weather; moderate and mild procedures should be adopted for persons on the basis of their strength. Fomentation is beneficial when vāta or kapha are disturbed singly or in combination but the procedures adopted for each condition would be oily or dry or a blend of oily and dry. When vāta and kapha get lodged in the stomach and large bowel, fomentation should be done by dry measures for the former and oily ones for the latter.

CHOICE OF CANDIDATE[1]

Fomentation is beneficial for heterogeneous conditions affecting any part of the body. These include cold and cough, hiccup, shortness of breath, non-relaxation, pain in the ear, neck and head, congested throat, paralysis of one limb, one side or the entire body, constipation, urinary obstruction and dysuria, stiffness in the thighs, knees, legs and feet. Fomentation is not advisable in persons who regularly take medications of plant extracts and alcohol, in pregnant women, or those suffering from bleeding disorders, diarrhea, diabetes, burns, jaundice, emaciation and defective vision.

TECHNIQUES OF FOMENTATION

Fomentation should be carried out in a room or a chamber in the cellar, which had been heated with charcoal fire and rid of smoke. The subject should be massaged prior to fomentation and his eye, cardiac region, testicles and groin should be protected with clean cloth, pieces of dough or lotus flowers. Fomentation should be stopped when the subject feels relief from pain, stiffness and cold,

and experiences relaxation and sweating. If overdone, fomentation may produce complications such as fainting, severe thirst, burning sensation or weakness, which should be countered by appropriate measures after discontinuing the procedure.

Fomentation can be applied in several different forms as indicated below.[2]

Sankara (bolus fomentation)

A bolus may be made of sesamum, blackgram, horsegram, ghee, rice cooked in milk, meat, or dung of cow, ass, camel, pig; or sand, pieces of iron and stone. The materials may or may not be covered with cloth during application.

Prastara (bed fomentation)

A cloth piece of silk or wool or a layer of leaves of éraṇḍa and arka are laid on a bed made of grain husk, or rice cooked in milk. After proper massage, the subject lies down or sleeps on the bed when prastara sweda is applied.

Nāḍi (tube fomentation)

Meat of domestic and marshy animals, goat head, trunk and blood of pig, sesamum seeds, decoction of the leaves of varuṇa, guḍūcī or éraṇḍa, are boiled in a pot which lets out vapour through a pipe made of reed, leaves of bamboo or karañja or arka. The pipe should be bent in two or three places and tapered with the circumference at the subject's end by approximately one-eighth of that at the pot end. Vapour coursing through the convoluted channel is tolerated well and does not produce burns.

Pariṣeka (shower fomentation)

The patient afflicted by vāta disorders is massaged with oily substances, covered with a cloth and exposed to a shower of the warm extracts of vāta-alleviating roots from pots and pipe-like containers with multiple holes.

Avagāhana (tub fomentation)

A chamber or tub is filled with vāta-relieving substances such as tolerably hot milk, oil, ghee, meat extract, or hot water wherein the subject takes bath.

Jentāka (chamber fomentation)

Jentāka is a specially constructed room for administering fomentation. The room is constructed on spacious land with black or golden soil. It should be located on the southern or western bank of a pond or lake and should face the east or north. The room should be circular with many windows, and plastered well with mud (Fig 9.1). The height and other dimensions of the room should be as prescribed.[3] All along the wall a shelf-like platform on which a subject can rest should be built in the room. In the centre of the room, a chimney (made of mud) with many holes and a lid, of prescribed height should be constructed. The wood of medicinal plants such as aśvakarṇa and khadira is burnt inside the chimney until the room becomes hot and is rid of smoke. At this point, the subject who has been massaged with vāta-alleviating preparations and covered with cloth should enter the chamber and lie down on the platform on either side of the chimney, alternately. He should rest on the platform even when sweating or feeling faint, since a premature attempt to get up would be risky. The subject should feel light as if the the body channels are free from blocks, and there is no constipation, stiffness, and pain as he gets up, reaches for the door and leaves the room. After three-quarters of an

hour, a bath in warm water and meals are in order.

Aśmaghana (stone bed fomentation)

A stone slab is heated by fire from wood which relieves vāta disorders. After heating, the charcoal is removed and hot water poured over the surface. Thereafter it is covered with a sheet of silk or wool and the patient, having been massaged and covered, lies on it for fomentation.

Karṣu (trench fomentation)

Given limited space, a furrow should be dug below the cot and filled with burning, but not smoking, charcoal. The patient lies comfortably on the cot and undergoes fomentation.

Kuṭi (room fomentation)

A medium sized circular room without windows is constructed with thick walls and lined with kuṣṭha *etc*. A cot is kept in the centre of the room and covered with sheets of leather, silk or wool. All around, ovens filled with lighted charcoals are placed. The patient lies comfortably on the cot after having been massaged.

Bhū (earth fomentation)

This is similar to aśmaghana - but the place where the fomentation is to be conducted is larger and windless and the surface smoother.

Kumbhīka (jug fomentation)

A jar filled with extracts of vāta-relieving plants is placed so that up to a third or half of its height is inside the earth. A cot or seat is placed over it and covered with a sheet. At this stage, heated pieces of stone are put into the jar. The patient who had been massaged with vāta-relieving oils sits or lies on the seat or cot and undergoes fomentation.

Kūpa (wall fomentation)

A pit, about the area of a cot and twice its depth, is dug in a windless place and swept clean. It is filled with the dung of cow, elephant, ass or camel, and lighted. When it has burnt well and smoke has settled, the well-massaged patient lies on the covered cot which had been placed over the pit.

Holāka (dung fomentation)

The procedure of kūpa sveda is followed except that the dung is burnt on the earth, not in a pit. The cot is placed only when the earth becomes hot and smokeless.

The thirteen techniques mentioned so far involve the use of fire. But there are also techniques which do not use fire and yet produce effects similar to those of fomentation. They are physical exercise and fighting, a warm habitation, heavy clothes and bandaging, hunger, copious drinks of hot fluids, fear, anger and the hot sun.[4]Fomentation may also be applied to a part or whole of the body, and with or without prior massage with oily substances.

Fig 9.1 House for fomentation: note die elevated location of the bank of a lake and the central chimney. Patient would be placed in the circular space around the chimney.

After fomentation, the subject should take agreeable meals and refrain from physical exertion for a day.

10 *Evacuative Therapy*

Evacuative therapy is necessary to eliminate the disturbed doṣs of severe degree even as a plant needs to pulled out by the roots to prevent regeneration.

Good health implies the equilibrium of constituents which can be disturbed by many causes. The causes - internal and external - always exist, but they do not produce disequilibrium except when they become unbalanced themselves (hetuvaiṣamya) due to external causes.[1] Bodily events such as the disequilibrium of constituents have a cause but the termination of disequilibrium does not have a cause; it seems natural. Does this mean that the objective and functions of the physician and therapy are misplaced? Do they serve a purpose?[2] These questions have been pondered over by great minds in the past. The answer is that the termination of disequilibrium is spontaneous and no different from the natural decay and termination of the body by time, for which no cause is obvious. The termination of the being is mandated at the very moment that it comes into existence; there is therefore no more cause for the termination of disequilibrium than that for the termination of the being.[3] All that therapeutics and the physician seek to do is to facilitate the natural recovery of equilibrium. This involves, wherever applicable, measures such as the elimination of the causes of disequilibrium and the promotion of factors favouring equilibrium, which a good physician brings about for the benefit of the ill and for his own welfare.

The accumulation of doṣs in disequilibrium manifests as many signs and symptoms. These include indigestion, loss of appetite, pallor, tiredness, obesity, heaviness, boils and skin rash, fetor, heartburn, insomnia or too much sleep, intellectual deterioration, impotence and bad dreams. Patients with these complaints are candidates for evacuative therapy. Settling a disturbance of this degree by simple measures may not be successful and may even lead to aggravation. Evacuative therapy is necessary to eliminate severe disturbance of doṣs, just as a plant needs to be pulled out by the roots to prevent regeneraton.[4]

A HOUSE FOR THERAPY[5]

The place to administer evacuative measures should be designed and equipped not only for treatment but also for the management of complications. True, master physicians can administer perfect treatment without complications, but ordinary physicians including scholars can make mistakes thanks to the extreme complexity and variability of illness, of patient's age and constitution, of drugs, of diet and time. To minimise mistakes, it may be desirable for a team of physicians to manage the evacuative regimen for serious ailments. The management of complications must in any case be provided for.

The house for treatment should be designed and built by an architect who has expert knowledge of vāstu. It should not be located in a valley or a place subject to strong wind. The building should be strong and well-ventilated with a reservoir for water, kitchen, bathroom and lavatory. It should have plenty of space to move about, enjoy protection from the sun, rain, smoke and undesirable sights and smells (Fig. 10.1).

A house for treatment has multifarious needs for patient services, and trained personnel should be available to meet the requirements such as separate cooks for preparing rice and cooking pulses and soups, bath attendant and barbers. Helpers who are clean, well-behaved, skilled and caring should be readily available to lift the patient, grind medications and render other kinds of assistance. The house should have in attendance artists who are experts in vocal and instrumental music, recitors of ballads and poetry, narrators of ancient lore and associates who can relate to the patient, time and place. The neighbourhood should be home to birds like common quail and partridge, and animals like hare, antelope and wild sheep. A milch cow, tame and healthy, with a calf should be maintained with supply of proper shelter, fodder and water. Among the accessories provided should be water pot, earthern jars of different sizes and shapes, pitchers, cooking pans, ladles, buckets, kitchen utensils, churning stick, cloth of leather and cotton, thread, cotton and wool. A mortar and pestle should be at hand (Fig. 10.2).

Fig. 10:1 House for treatment : located in agreeable surroundings, it offers facilities for procedures and accomodation for various personnel

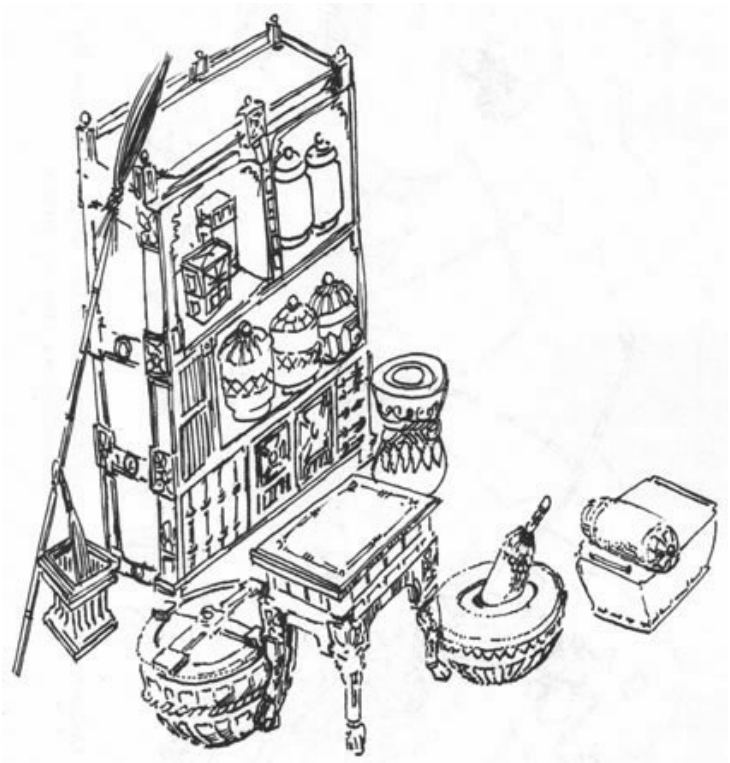


Fig. 10:2 Room for equipment and supplies

The furniture should include beds covered with blanket and sheet and provided with pillows, chairs, spittoon and vases for flowers (Fig. 10.3) The furniture should be designed to enable the patient to lie down, sit up and adopt various positions for procedures such as massage, enema, nasal irrigation, emesis, shower and evacuation of urine and feces.

Sharp instruments for cutting, and stone slabs with mild, medium and high degree of roughness for grinding with pestle should be available. Pipes for smoking, enema and washing of cavities, weighing scale, measuring cylinder, brooms and all the accessories to carry out procedures such as lubrication, fomentation, emesis and purgation should be within easy reach. Supplies of ghee, oil, marrow, honey, salt, wines, buttermilk, rice and various pulses, and fruits of many kinds should be plentiful. There cannot be an exhaustive list, and efforts should be made to provide whatever is necessary to carry out therapeutic procedures, treat complications and enhance the wellbeing of the patient.

TWO FORMS OF EVACUATIVE THERAPY[6]

Emesis

Prior to the start of evacuative therapy, the patient should have undergone lubrication and fomentation and should be in a happy mood. If the patient reacts adversely at this stage physically or mentally, the procedures should be suspended temporarily and, after correcting any mistakes in the procedure, restarted gradually. Sufficient time should have passed for the previous meal to have been digested. The patient should bathe including the hair, anoint the body, sport a garland, wear intact clothes, offer worship to the deity, fire, brāhmaṇas, teachers, elders and the physician. He should be seated comfortably. At the time chosen according to astral signs, brāhmaṇas should chant svastimantras and bless the drug to be administered. This would be, on this occasion, an extract of madanaphala mixed

with honey, madhuka, rock salt and a jaggery preparation, which should be given to the patient. The dose should be adjusted for each patient to eliminate the accumulated doṣs, to avert complications of excess or insufficient dosage.

The patient should be observed following the administration of the drug for its effect. Sweating indicates liquefaction of the accumulated doṣ and the appearance of goose-flesh points to its mobilisation and movement. The patient should now be seated comfortably on a cot at knee height with sheets, pillow and additional support. Spittoons should be kept ready. At this stage friends who enjoy the confidence of the patient should support the head and sides with gentle hands and press the belly at the navel (towards the spine). Meanwhile the physician should instruct the patient to keep his mouth open, bend the neck and upper part of the body slightly and attempt to retch. If that is unproductive, the throat should be tickled with two fingers (having had the nails trimmed) or the stalk of a water lily. The physician should inspect the vomitus in the spittoon as its characteristics provide the clue to the adequacy or otherwise of the treatment. Poor or absent vomiting, or vomitus consisting of the drug alone, are indications of inadequate treatment. Vomiting without much discomfort and spontaneous arrest of bouts are signs of effective therapy. Based on the quantity of doṣs eliminated, the evacuative response to the treatment may be classified as mild, medium or excellent. Overdose of the emetic preparation is suggested by the appearance of froth, blood and shiny material in the vomitus. The manifestations of overdose as well as insufficient dose include earache, bodyache and stiffness, salivation, palpitation, vomiting of blood, displacement of viscera and exhaustion. After recovery from vomiting, the patient should wash face, hands and feet and receive the reassurance. If strength permits, medicated smoke may be offered to the patient before he takes a bath.

Post-emesis care

During recovery, the patient should lie down in a quiet room free from wind and refrain from loud talk, sitting, standing and walking for long stretches of time. He should avoid travel, emotional excesses, night-watch, sleep during the day, heavy and irregular diet and suppression of natural urges. A whole day should be spent quietly in this manner when the patient rests physically and mentally.

The same evening or the next morning he should take a bath in lukewarm water and take his first meal which should be a warm, well-cooked gruel of red rice. The second and third meals should remain the same; the fourth, fifth and sixth should consist of a thicker preparation of red rice with a little salt and lubricant substance. The seventh, eighth and ninth meals should progress to well-cooked red rice, thin green gram soup flavoured with a little salt and lubricant substance, which should be followed by a drink of warm water. The tenth, eleventh and twelfth should feature cooked rice and thin meat soup of birds like quail and partridge, seasoned with salt, and should be followed by a drink of warm water. By this time, digestion and assimilation which had been disturbed would have recovered and the patient would have no difficulty in resuming his normal diet after seven nights.

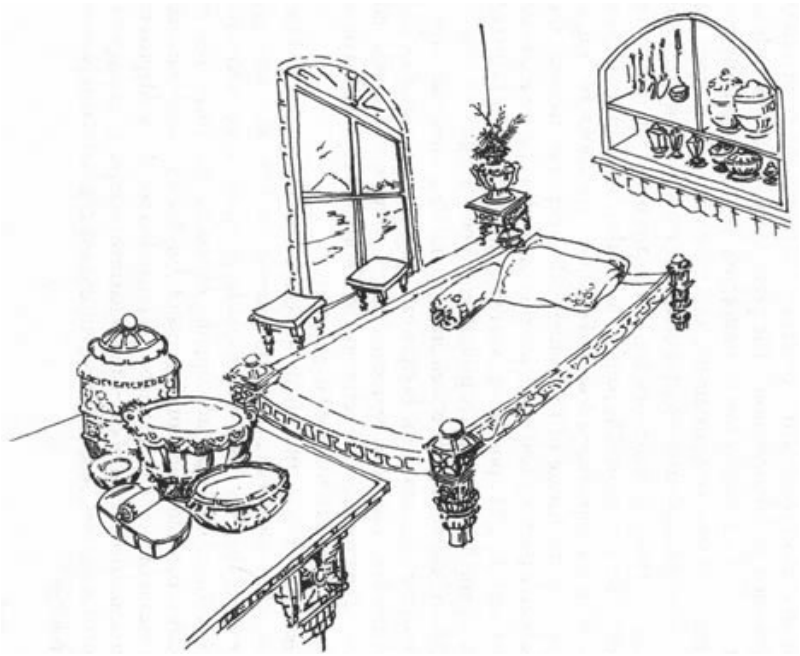


Fig. 10:3 Room for the patient

Purgation

Purgation is another evacuative procedure ; it should also be preceded by lubrication and fomentation.[7] The preliminary conditions such as digestion of the previous meal, comfortable position, cheerfulness, oblations, recitation of svastimantra and the choice of a moment of auspicious astral combination for the procedure remain identical to those for emesis. These preliminaries are customary before all important procedures for treatment. The patient should then be given the chosen purgative in the appropriate dose and medium. The choice of drug is governed by the nature of the patient's disorder and strength, the disposition of the body and mind, location, time, diet and the existence of other disorders. The post-purgation management is similar to that of emesis except that smoking is prohibited. When the patient regains strength and colour, and feels well and cheerful he should take a bath including the hair, anoint the body, wear a garland, intact clothes and ornaments. He would then be free to enjoy the company of friends and relatives. The procedure for returning to a normal diet and lifestyle is identical to that to be followed in emesis.

What has been described is the procedure befitting kings and the affluent, which involves assistance and accessories. However, disorders do not spare the poor who too should be given the same evacuative therapy without the elaborate trappings of special equipment. Just as the clothes, diet and other components of daily life are usually tailored to the means of individual patients, treatment too should be adapted to the particular patient. In all cases, the evacuative therapy, given properly, gets rid of impurities, relieves illness, enhances strength and complexion and prolongs life.

11 *Imbalance of Doṣas Varied Expressions*

Disorders stand in relation to doṣas as shadows do to the birds in flight.

DISORDERS OF THE HEAD

The head[1] is known as the most superior organ because the vital breath (prāṇa)and the five sense organs are located here. Numerous factors may predispose to diseases of the head: suppression of natural urges, sleep during the day and loss of sleep at night, loud noises, exposure to easterly wind, dust, smoke and snow, inhalation of disagreeable odours, eating too many sour articles, drinking too much cold water, upset digestion and suppression of tears. These factors provoke illness through the perturbation of vāta and of the blood located in the head. The diseases of the head are grouped into five categories: four are caused by the perturbation of doṣas and the fifth by worms.

Vāta gets perturbed by many unrelated agents such as loud and excessive talk, suppression of natural urges, fasting, excessive vomiting and purgation, weeping and exhaustion from physical labour. Perturbed vāta gains entry into the vessels of the head to produce a variety of symptoms including severe pain in the neck, temporal region and forehead, dizziness, pain in the eyes and ears, throbbing of head vessels and splitting headache, which respond partly to oily and hot applications locally.

Pitta, on the other hand, is vitiated by the intake of pungent, salty and sour food and wines, exposure to sun and heat and anger. When the disturbed pitta lodges itself in the head, pittaja head diseases occur, which are characterised by severe thirst, giddiness and sweating. Burning headache is another symptom which is relieved by cold applications.

Kapha is disturbed by too little physical activity, too much sleep, and overeating rich and fatty food. Kaphaja head disease is shown by dull ache, numbness, sensation of coldness and heaviness, loss of appetite, drowsiness and lethargy. When vāta, pitta and kapha are disturbed, a mixture of these signs and symptoms appear.

The fifth category of disease owes its origin to worms. Their growth has to do with overeating rich food containing sesame, milk and jaggery, eating in spite of indigestion, and consuming rotten food. As a result, water tends to dominate blood, kapha and the muscles. When it reaches the head, it stimulates the growth of vicious worms, which produce repulsive symptoms such as piercing pain, itching and swelling, difficulty in movement and the discharge of worms.

DISORDERS OF THE HEART[2]

Anguish, fasting, excessive physical activity, and eating very little or very dry food may disturb vāta

which may migrate to the heart and produce symptoms such as tremor, cramps, immobility, fainting, listless look and severe pain upon the digestion of food. Pitta disorders of the heart are provoked by hot, sour, salty and pungent food, liquor, eating during indigestion, exposure to sun and emotional excesses like anger. The symptoms also include a burning sensation in the heart region, bitter taste, acid eructation, thirst, tiredness, giddiness, sweating and fainting. Kapha is perturbed by excessive intake of rich and fatty food, poor physical and mental activity and too much sleep. Disturbed kapha deranges the heart and causes loss of appetite, drowsiness, cold and numbness and the feeling of a stone-like heaviness in the chest.

When the three doṣas combine to affect the heart, the signs and symptoms would be mixed. In such circumstances, if a person of perverse tendencies takes to a rich diet including sesame, milk, jaggery, the chyle derived from food becomes water-laden and a glandular swelling appears over the heart region. Soon, worm disease sets in and the patient experiences severe pain as if caused by needles or other sharp instruments. Severe and acute, worm disease calls for immediate medical attention.

When all the three doṣas are disturbed, various combinations can occur based on the dominance and non-dominance of given doṣas. The dominant and non-dominant varieties number 25 each, and those where they are evenly matched are twelve. Thus a total of 62 variants has been arrived at.[3] The signs and symptoms of each variety are distinctive. As a general rule, disturbed doṣas, when in excess, manifest themselves as symptoms, according to their qualities and strength; when deficient, their normal characteristics disappear.[4] The phenomena of excess and diminution can also affect ojas which is pure, red or slightly yellow in colour and is located in the heart. It is also the first to originate when the body takes shape. It looks like ghee, tastes like honey and smells of fried paddy. Ojas extracts itself from the human body by virtue of its qualities just as bees collect honey from fruits and flowers. Too much physical activity, too little food or starvation, anxiety, fear and grief, sleeplessness, exposure to wind and sun, drinks, loss of mucus, blood, semen and other body fluids, old age and seasonal changes can reduce ojas.[5]

ABSCESSES[6]

Some people consume large quantities of rich and fatty food flavoured with salt and sour substances. They prefer newly harvested grain and drinks, enjoy sleep and sedentary\life and refrain from mental and physical activity to the detriment of even evacuation. The three doṣas and fat accumulate in their body and block the channel of vāta which transports ojas to the urinary bladder. The result is intractable diabetes which shows the effects of the three disturbed doṣas, and subsides only to flare up again. If neglected, it leads to the formation of abscesses of different kinds and different stages in the muscular parts, vital organs and joints.

Abscesses belong to seven categories. *Śarāvikā* has raised margins, a sunken centre and resembles a saucer. It is moist and painful. *Kacchapikā* extends over a larger area and looks like the back of a tortoise with greater pain. *Jālinī* is hard, displays prominent blood channels on the surface, and has a wide base with an oily discharge emerging through small openings. *Sarṣapī* is not large but is very painful and has mustard seed like boils which suppurate quickly. *Alajī* is associated with burning sensation which increases from the time of onset and shows other symptoms such as thirst, fainting and fever. It also has a tendency to spread. *Vinatā* causes deep-seated pain and appears on the back or abdomen. It is large, bluish and saucer-shaped with a thick discharge. The seventh variety, *vidradhi*, is important and merits detailed discussion.

Vidradhi may be external or internal. The external form is taut and painful and appears on the skin, tendon or muscle. The multiple factors leading to the formation of vidradhi include unwholesome diet and eating during indigestion, drinking too much wine or wine of poor quality, suppression of natural urges, too much physical activity as well as too much sleep, excessive sexual intercourse, carrying too much weight, and sheer fatigue. As a consequence, doṣas are perturbed and assail muscle and blood leading to the formation of deep-seated and painful swellings of the glandular type in the cardiac region, lungs, liver, spleen, flanks, kidney, navel, groin and urinary bladder. The inflammation progresses rapidly because blood is contaminated with disturbed doṣas. The specific symptoms vary among vidradhis caused by vāta, pitta and kapha, but all share the common symptom of severe pain. The pus from vātika vidradhi is thin, rough, reddish black and frothy while the pittaja version yields a blackish discharge resembling sesamum or blackgram soup. The kapha vidradhi releases white, slimy and thick pus. Features of all the three varieties may be seen in the discharge when the vidradhi is an outcome of the disturbance of all the three doṣas. The location in different sites like the cardiac or renal region, or liver, determines the specific cluster of symptoms of each abscess.[7] When abscesses are located and ripen in the upper parts of the body, they tend to discharge through the mouth and those from the lower parts of the body through the anus. Abscesses located in the middle may discharge in both directions.

Abscesses which occur in the cardiac region, navel and urinary bladder generally result from the disturbance of all three doṣas and are fatal. Those in other locations are amenable to treatment by expert physicians. One should lose no time in treating an internal abscess of recent onset, by administrating lubricants and purgatives; this should be followed by management as that for an abdominal lump.[8]

Abscesses can occur in obese individuals in the absence of diabetes and may not attract attention until they have advanced. Śarāvikā, kacchapikā and jālinī varieties are very painful and occur in obese and kapha-laden individuals; sarṣapī, alajī; vinatā and vidradhi which affect individuals with excess of pitta respond well to curative therapy. On the other hand, the diabetic who has abscesses in the vital organs, shoulder, anus, hands, breast, joints and feet seldom survives.

What has been discussed is not an exhaustive list of abscesses. There are others of a miscellaneous kind which may be coloured differently (red, yellow, black etc.); may be hard or soft; large or small, slowly or rapidly progressive, and mildly or severely painful. If untreated, they may develop complications such as gangrene, shortness of breath, hiccup, loss of consciousness, and may even spread to other parts of the body and cause the failure of vital organs. Therefore, a physician is obliged to examine each patient carefully in the light of signs and symptoms and make a diagnosis on the basis of the perturbation of vāta or other doṣas. This should be followed by prompt and appropriate treatment.

COURSE OF DOṢAS[9]

The status of vāta, pitta and kapha is a constant background to the disorders of the head and heart and abscesses including those complicating diabetes. Doṣas are dynamic entities which are prone to movement in three directions. In the first place, they may remain normal or may swing towards diminution or accumulation. Secondly, they may move upward, downward or in an oblique direction in the body with corresponding manifestations. Thirdly, the perturbed doṣas may migrate to the gut,

vital organs or joints.

At another level, doṣas may follow a dual status as normal or abnormal. In the normal state, pitta causes digestion, kapha is responsible for strength, and vāta represents life breath and sustains every kind of movement in the body. When the status shifts to abnormal, pitta produces several disorders; kapha becomes an execrable impurity and vāta brings about many diseases and may even stop the breath of life.

Lastly, doṣas respond to the change of seasons, which should receive the attention of the physician. Pitta undergoes aggregation, perturbation and quietude during rains, autumn and early winter. Kapha is concentrated, perturbed and composed in early winter, spring and summer. Vāta tends to accumulate, vitiate and settle down during summer, rains and autumn. Given so many factors within and without which can always turn hostile, an individual wishing for long life should be particular in following a proper code of living.

SWELLINGS

Normal or abnormal, vāta, pitta and kapha are always present in the body. In the normal state the three doṣas perform critical functions which sustain body activities. Vāta upholds inspiration and expiration, the constant transformation of constituents, elimination of impurities, movements of every kind and the spirit behind every activity. Pitta energises vision and digestion and underlies diverse urges and qualities such as hunger and thirst, heat, brightness and softness of the body, cheerfulness and intellect. The normal functions of kapha are to supply, wherever appropriate, lubricity, bonding, firmness, solidity, heaviness, potency, strength, tolerance, fortitude and non-covetousness. A negative turn of the three doṣas reflects in the corresponding diminution of their respective functions and qualities. Conversely, a positive swing or aggravation never fails to register an increases in their functions and qualities.[10]

TYPES OF SWELLINGS

The doṣas play no small role in the genesis and course of swellings which are as common as they are varied. There are as many classifications as there are swellings. For example, they may be external or internal; they may be of three types according to the disturbance of doṣas, or of four types when all three doṣas and an exogenous factor operate in unison. The number could rise to seven or eight by other kinds of permutations and combinations among doṣas, but what unifies all swellings is quite simply the presence of a bulge. Indeed, one need not be defensive for being unable to affix a classified label to a given swelling because the same perturbed doṣa can produce different disorders according to different causes and locations.[11]

External swellings

External swellings are caused by agents outside the body.[12] The causative agents include surgical and accidental injuries, exposure to heat, polluted air and snowfall, juice of flowers and fruits of bhallātaka, poisonous leaves, creepers and shrubs, deposits of poisonous insects on the body and assault by animals with their claws, teeth or horns *etc.* The external swellings differ in their causation and presentation from internal swellings; in general they respond to the application of dressings, antitoxic drugs, application of heat or cold and the recitation of mantras. Internal swellings, on the other hand, result from altogether different causes. These include the wrong application of procedures

such as lubrication, fomentation, emesis, purgation, enema and nasal irrigation, debilitating illnesses such as diarrheal disease, dyspnea with cough, phthisis, anemia, dropsy, profuse vaginal discharge, and anal fistula, suppression of natural urges, eating large qualities of unwholesome or forbidden food or abnormal articles like mud, and the poor management of women following delivery.[13] As one moves from these general causes to the three doṣas, a different picture emerges.

Swellings due to perturbed doṣas

Vāta being provoked by cold, rough, light and dry articles of diet, exhaustion, fasting and emaciation, produces its effect as swelling by dominating skin, muscle, blood and other tissues. The swelling increases and decreases speedily and the affected part becomes red or blackish, or remains normal in colour. It may be pulsating or mobile; the skin on the surface may be rough or broken and the hair may be coarse. The patient may complain of sharp and incisive pain, or of ants crawling, or a mustard plaster being applied. The swelling regains previous shape after pitting on finger pressure, and subsides during the night. It also responds to oily and hot massage.

Pitta is disturbed by food which is hot, salty or sour, pungent and caustic; or eating when the stomach is upset. It may also be vitiated by exposure to heat from fire or sun. Once disturbed, pitta subdues skin, muscle, blood or other tissues and shows up as swelling which is quick to appear and regress. The affected part is black, blue, yellow or coppery in hue, and hot and soft on touch, with coppery hair. It causes burning sensation, excites sweat and characteristic smells, and tends to appear in the middle part of die body. The patient may have fever, thirst, diarrhea and yellow discolouration of eyes and skin. Application of heat to the swelling brings comfort.

Sweet, cold, rich and fatty food, lack of physical activity and too much sleep upset kapha. Thus disturbed, kapha dominates skin, muscle, blood and other tissues and gives rise to swellings which appear and recede slowly and with difficulty. The swelling is immobile, pale, oily and smooth to touch, with whitish hair on the surface. It tolerates touch and heat, causes itching and does not rebound after applying pressure. On cutting, it does not bleed but exudes a clear, slimy substance.

When two or all three doṣas are disturbed, swellings with mixed signs and symptoms appear. The complications of swellings include vomiting, shortness of breath, loss of appetite, thirst, fever, diarrhea and debility. The swelling which begins on the feet and spreads upwards over the body and which starts on the face of women are treated with difficulty. Swellings associated with complications and taking origin in the genitals of men or women are equally difficult to treat.

Swellings of diverse characteristics - slow and rapid onset, painful and painless, coloured and colourless, simple and complex - appear in the throat, temple, neck, trunk, belly, genitals, and literally, head to foot. Their identification in terms of the disturbance of specific doṣas should be made on the basis of established clinical experience.[14] In fact, the swellings are so many that classifications based on disorder, causation etc., cannot be exhaustive. Therefore if a given swelling cannot be classified it should be treated according to the general principles of therapeutics.

AN ASSORTMENT OF DISORDERS

Just as a flying bird can never go beyond its shadow even if it flies all day, disorders can never outstrip the three doṣas. Diseases are primarily rooted in the imbalance of the three doṣas (endogenous) - the only exception being the exogenous group which have purely external causes (āgantuka). It does, however, happen that exogenous disorders in turn upset the balance of doṣas or

vice versa; a physician should therefore be alert to the distinction between primary and secondary disorders in prescribing a course of treatment.[15]15 What follows is merely a listing of disorders of various types which will be discussed in detail elsewhere.[16]

The present list covers disorders of the abdomen including spleen, head, heart, eye, ear, nose, mouth, stomach, female genitalia, urinary system, semen, lactation, thirst and sleep, and ailments such as leprosy, diabetic abscess, cellulitis, diarrhea, abdominal lumps, cough and dyspnea, hiccup, vomiting, loss of appetite, anemia, mental illness, epilepsy, loss of consciousness, wasting, impotence, swelling, leucoderma, internal bleeding, fevers, wounds, contractures, backache, jaundice, piles, stiffness of the thigh, coma, worms and diabetes - the total amounting to 48 conditions and diseases. They illustrate the central and universal role of vāta, pitta, and kapha in the genesis and progression of disease and the lesser, but important, part played by external factors.

IMBALANCE OF DOṢAS AS THE BASIS OF DISORDERS

Diseases set in through four mechanisms which are external factors, vāta, pitta, and kapha. What they have in common is the morbid nature of their outcome - disease. The very same doṣa may cause different diseases due to the difference in location, and the symptoms would include those produced by the doṣa as well as the location.

External and internal causes of disease

The cause of a disease may be external or internal, and the location may be the body or mind; but diseases themselves are countless because of the many variations in body disposition, symptoms, and causative factors.[17]

The external agents of causation are many and varied. Attacks by wild animals with claws and teeth, sorcery, curse, possession by evil spirits, injuries from trauma and weapons, hanging, burns, lightning and attack by organisms are illustrative. The diseases due to internal causes are precipitated by the imbalance of vāta, pitta and kapha. However, the underlying cause of all diseases - external and internal -can be traced to the inappropriate contact of sense organs with their objects, imprudent conduct and the constant change of the body (pariṇāma). Although the four mechanisms of disease are distinct, they interact in practice, particularly in later stages, but nevertheless remain distinguishable. The externally caused disorder is heralded by pain and followed by the imbalance of doṣas whereas pain follows the imbalance of doṣas in internally caused disorders.[18] The doṣas have preferred locations in the body Vāta stays in the urinary bladder, colon, waist, joints, feet, bones and intestine, but intestine is its special seat; pitta remains in sweat, chyle, lymph, blood and stomach (the last being its place of dominance); kapha prefers the chest, head, neck, joints, stomach and fat (chest being its special location). As emphasised repeatedly, the balance of doṣas is indispensable for good health and the healthy life that goes with it. Conversely, the perturbation of doṣas (doṣavaiṣamya) is the principal mechanism for endogenous diseases which are innumerable. Of these there are eighty, forty and twenty diseases which prominently owe their genesis to the disturbance of vāta, pitta and kapha, respectively.

QUALITIES OF DOṢAS DETECTED IN DISORDERS CAUSED BY THEM

Vātaja

The diseases and morbid conditions due to the perturbation of vāta assail the body from foot to the head, and the majority of them share a predisposition to causing abnormalities of motor function and locomotion in particular.[19] An illustrative list would include foot drop, stiffness in ankles, calf cramps, sciatica, limping, rectal prolapse, penile stiffness, gaseous regurgitation, short stature, stiffness in the back, constriction of chest, wasting of arms, stiffness of the neck, hoarseness of voice, pain and looseness of teeth, stammering, loss of smell, taste and hearing, paralysis efface, one limb, one side or all limbs, convulsions, insomnia, and loss of mental balance. In all these and other unlisted conditions, an expert physician would detect the characteristic signs of disturbed vāta. These are roughness, coldness, lightness, non-sliminess, movement disorder, non-solidity and instability. As a result of disturbed vāta there are changes in the function and form of target organs. These include dissociation, dislocation, division, fusion, severing, tremors, wasting, movement, pain, roughness, reddish hue, tastelessness, numbness, and stiffness. These are among the telltale signs of vāta.[20]

The principles of treating vāta disorders consist of the administration of sweet, sour, salty, fat-laced and hot items in diet and medications, lubricant and non-lubricant enema, nasal irrigation, massage and bath after oiling the body - all in appropriate doṣage and in conformity with time. Among these measures, enemas are the most important because they enter the colon and strike at the roots of vāta, which causes the wide-ranging effects of vāta to wither away. This is reminiscent of the destruction of the roots which invariably leads to the atrophy of the whole tree including its trunk, branches, leaves, flowers and fruits.

Pittaja

The disorders triggered by pitta have characteristic symptoms. Prominent among them are burning sensation in the chest, stomach, shoulder blades and back, which is conspicuous and may be quite severe. Other features include fever, sweating, body odour, feeling of body parts and skin being torn, overhydration of blood and muscles, urticaria, internal bleeding, red patches on the skin which turn greenish, yellowish or bluish, jaundice, bitterness or taste of blood in the mouth, severe thirst, inflammation of throat, eyes, anus and penis, and discolouration of urine and faeces, and fainting. Clearly the overall picture of morbidity in pittaja disorders is inflammatory, and the experienced physician would find no difficulty in spotting its specific actions and features and making the correct diagnosis. Heat, acuteness, fluidity, lubricity, discolouration except white and red, fishy smell, sour taste and mobility of lesions are indications of pittajā disturbance. Thanks to properties which are largely inflammatory, pitta induces corresponding changes in the organs and locations under attack.

Disorders of pitta should be treated with diet and medications that are cold, sweet, bitter or astringent. Administration of lubricants, purgation, bath, massage and other physical measures which allay pitta should be carried out keeping in mind the correct dosage of drugs and season. Among all the measures, purgation claims primacy in so far as it removes the entire matter of pitta from the point of its entry into the gut and composes the pitta disturbance of the whole body even as the removal of fire cools an oven.

Kaphaja

The twenty disorders of kapha are characterised by satiety, sleepiness and excess sleep, sensation of heaviness and cold, lassitude, sweet taste and salivation, mucus expectoration, indigestion, restriction of the heart and throat, pooling in vessels, goitre, obesity, urticaria, whiteness in urine, eyes and feces. A good physician identifies the stamp of kapha by its footprints which are visible in the

lubricant nature, coldness, whiteness, heaviness, or sweetness of the affected part.[21] The management should be based on diet and medications with pungent, bitter, astringent, sharp, hot and rough properties and the observance of proper dosage and time for therapy. Emesis is the procedure of choice for eliminating disturbed kapha; it succeeds in the same manner as the crop of paddy or barley dries up as soon as the water in the field is allowed to escape through a gap in the ridge.

12 *Slimming and Building Up in Therapeutics*

If the disturbance of doṣas fails to settle or worsens, the therapy is inadequate or is inadequately carried out.

A good physician must know the principles and practice of the six procedures which are employed in therapeutics. They are slimming, building up, roughening, lubrication, fomentation and arrest (or checking). Briefly stated, slimming makes the body light whereas building up adds to the bulk. Roughening imparts roughness, coarseness and non-slipperiness; lubrication imparts oiliness, softness, flow and wetting; fomentation causes sweating and relieves stiffness, heaviness and cold. Arresting stops or checks the flow of mobile substances all over the body.[1] The diet and medications used for the six procedures and their respective qualities and actions are given in Table 12.1.

Table12.1 Procedures, qualities and actions

Procedures	Qualities of medications	Actions
Slimming (laṅghana)	Lightness, heat, roughness, instability, non-slipperiness, intensity	Makes the body light
Building (bṛmhana)	Heaviness, coldness, softness, lubricity, solidity, stability, slowness, smoothness	Adds to the bulk
Roughening (rūkṣaṇa)	Roughness, lightness, coarseness, sharpness, heat, stability, non-slipperiness, hardness	Roughens; produces non-slipperiness
Lubricating (snehana)	Liquidity, subtlety, instability, lubricity, heaviness, coldness, slowness, softness	Lubricates, moistens softens
Fomenting (svedana)	Heat, sharpness, instability, lubricity, subtlety, liquidity, stability	Induces sweat, relieves stiffness
Arresting or checking (stambhana)	Coldness, slowness, softness, subtlety, smoothness or roughness, liquidity, stability, lightness	Checks or arrests the mobility of all substances in the body

Slimming and roughening therapy have much in common in terms of the qualities of the diet and medications and the effect produced. Among the procedures, slimming and building up deserve special attention.

Slimming or reduction takes several forms in therapeutics. Evacuative therapy, open air life with

exposure to sun and wind, a digestive regimen including fasting and withstanding of thirst, and physical exercise are the most commonly used methods for reduction, but the candidates for each would vary. A corpulent and strong individual with copious stores of kapha, pitta, excretory impurities and disturbed vāta is in need of evacuative therapy. So are diabetics, those with skin disease, those who eat too much fatty food that is rich and blocks the channels, and suffer from vāta disorders. Individuals with corpulence of medium severity but suffering from kapha and pitta disorders like vomiting, diarrhea, heart disease, fever or acid eructation, should be initially treated by a regimen to enhance the digestive fire. This may usually suffice. If the complaints are mild, fasting and restriction of fluid intake in spite of thirst may be sufficient. If the symptoms are medium or slight in able-bodied persons, physical exercise and open-air living should be recommended.[2]

Building up is appropriate for persons who are old, weak, wasted and injured; for travellers covering long distances on foot and for those who enjoy wine and female company liberally. The summer is the best season for building up therapy: therefore it should include a diet containing fish or the meat of healthy adult animals killed with non-venom tipped weapons. Persons suffering from phthisis, piles, abdominal and other diseases associated with wasting would benefit from a soup of meat from carnivorous animals. Apart from bulk-promoting foods, universal measures should include oil massage and bath, sleep, enema with sweet and lubricant substances, sugar, milk and ghee. If the therapy is successful, the individual gains strength and weight and overcomes the defects of the lean. If the therapy is overdone, the pendulum may swing the other way and the patient may become obese.[3]

Roughening is similar to reducing therapy and mainly consists of a diet of pungent, bitter and astringent substances, oil cake, buttermilk and honey, and sexual activity. Roughening should be administered in diseases which are marked by blocked body channels and disturbance of doṣas (which are located in the vital organs and the thighs as stiffness). When roughening is correctly managed, the patient would feel light and cheerful, drowsiness and fatigue would disappear, passage of urine, stools and wind would become smooth, a feeling of non-obstruction would return in the heart, throat and mouth, and normal sweat, hunger and thirst would reappear. The signs of excessive reducing as well as roughening therapy include pain in the joints and body, cough, loss of appetite, thirst, diminished vision and hearing, loss of weight, acid eructation and mental confusion.[4]

Arresting or checking the flow of substances is necessary in the treatment of pitta disorders, burns with fire or caustics, vomiting and diarrhea and the effects of toxins and excessive sweating. The therapeutic measures consist of intake of liquid, thin and cooling substances including food and drugs which may have sweet, bitter or astringent tastes.[5] If the therapy is adequate, the disorders disappear and the patient gains strength.

If the treatment is carried to an extreme, the patient may develop blackish discolouration, stiffness of body parts including jaws, malaise and a sensation of restriction in the heart.

Even as permutations and combinations of disorders are countless but never go beyond the framework of the three doṣas, treatment methods may be mixed in varying proportions to suit the individual, the given disorder and time but should never exceed the six procedures discussed here. If the disturbance of doṣas fails to settle or worsens, the therapy is inadequate or is inadequately carried out.[6]

13 *Obesity and Leanness; Stray Remarks on Sleep*

When the mind is weary and the tired senses withdraw from their objects, a man falls asleep.

There are eight body traits which are to be avoided. These are pairs of opposites represented by tallness and shortness, hairiness and hairlessness, black and white, obesity and leanness - all in extremes. Among them, obesity and leanness deserve special attention. *(Author: This is probably because they may be managed, while the other factors are more or less unchangeable.)*

OBESITY

The obese have eight handicaps - shortened life, difficulty in movement and sexual intercourse, tiredness, body odour, copious sweating, ravenous hunger and severe thirst. Obesity is a result of surfeit, when the individual gorges on rich, sweet, cold, and fatty food; enjoys sleeping during the day, refrains from mental work and suffers from genetic disorders. As fat accumulates out of proportion to the other dhātus in the body, the tissue asymmetry impairs strength and shortens lifespan, and the individual becomes averse to physical activity. Excess fat hampers locomotion and sexual intercourse, which is aggravated by reduction in semen. Body odour is an outcome of the abnormal accumulation of fat, the association of fat with kapha, and its diffusion and excess, which markedly increase sweating. As digestive power is strong in these individuals, vāta is overactive in the stomach and causes intense hunger and thirst.[1] Food is digested quickly and triggers the urge to eat more - if the desire is not met, the person suffers several ills as a consequence. One could say that the digestive fire and vāta combine to burn the subject just as fire and wind consume a forest. The obese have marked accumulation of fat in the buttocks, belly and breasts, and their life processes and energy wind down constantly.

The obese are continually ill and need to be managed by slimming or reducing measures. The aim of treatment is to restore the balance in the proportion of muscles among tissues because the resultant firmness protects organs from disorders. Those with the proper balance are able to withstand hunger, thirst, heat, cold and physical activity; their life processes including digestion are also evenly balanced.

The slimming or reducing measures involve an austere regimen that covers diet, medications and a wide range of activities.[2] Food and drinks which neutralise vāta and reduce kapha and fat; rough and warm enema sharpened with medications, and rough massage with oil are appropriate. Drugs are important, and excellent preparations include guḍūcī, devadāru, mustā, triphalā, vidaṅga, śuṇṭhī,

yavakṣāra, powder of black iron mixed with honey, powder of barley and āmalaka. Other medications of value are bilvādi panchamūla mixed with honey and śilājatu with the juice of agnimanthā. The diet should consist of a coarse cereal like praśātikā and kaṅgu, śyāmāka, yavaka, yava (barley), jūrṇa, kodrava, greengram, kulattha, makuṣ ṭha and āḍhakī served with pā ṭolā and āmalakī. The meals should be concluded with honey water and a fermented drink which inhibits fat, muscle and kapha. The regimen should also include lengthening the waking hours, increasing physical and sexual activity and enhancing the pace of mental work. Sleep during day time is forbidden because it is lubricant and favours obesity unlike night vigil which is rough and opposed to it.

LEANNESS[3]

In contrast to the obese, the lean person benefits from a regimen of abundance. A joyful and carefree attitude, equanimity, sleeping on a comfortable bed, not indulging in excessive mental, physical and sexual activity: all these set the tone for building up the lean. Food should consist of fresh cereals and wine, meat and meat soup of domestic and aquatic animals, milk and other dairy products, sugarcane, rice, wheat, blackgram, and jaggery and its products. Fatty and sweet enemas, regular oil massage and bath are beneficial. Sporting garlands and white apparel, timely elimination of doṣas and the intake of bulk-building tonics which also promote virility contribute to the management of leanness. The watchwords should be the absence of worries, rich food and plenty of sleep.

Obesity and leanness can present in a more severe and excessive form than discussed here and greatly complicate the management. While the principles of treatment remain unchanged, the therapeutic measures should be suitably intensified to counter the numerous disorders that arise as a consequence of excessive obesity and leanness.[4]

SLEEP[5]

When the mind is weary and the tired senses withdraw from their objects, a person falls asleep. Normal sleep which occurs at night nourishes life, but sleep brought on by the excess of kapha, by too much physical and mental activity, by illness and by supreme inertia (tamas) is not normal. In particular, sleep of the tāmasic kind is rooted in sin.

Sleep is an important part of life. On its soundness or otherwise depend many things including strength and weakness, potency and impotency, bulk and leanness, knowledge and ignorance, happiness and misery, and even life and death. In the range of normal sleep, there is a place for day sleep for given situations and individuals. For example, those whose strength is impaired from a lifestyle involving singing, reading, drinking, journeys and night vigils, the old, women and children, those walking long distances and those carrying weight, patients undergoing evacuative therapy or having injuries, indigestion, diarrhea, colic, dyspnea, hiccup or insanity, the lean, those tormented by grief, fear and anger may be accustomed to day sleep because it restores the equilibrium of their dhātus, and enables kapha to support their body parts. For them, day sleep is in order particularly in summer when vāta gets disturbed and nights become shorter. However, day sleep is inadvisable in other seasons when kapha and pitta tend to be perturbed. It is also harmful for the obese who suffer from disorders of kapha and toxins. Indeed, inappropriate day sleep may predispose to much morbidity and disease such as headache, a sensation of heaviness, indigestion and loss of appetite, swelling, restriction of the heart, skin infections, impairment of memory and intelligence, blocking of body channels and the weakening of sense organs. The wise should therefore cultivate the habit of

sound sleep which promotes happiness. Even when disturbed, sleep will return in response to oil massage and bath, meat soup, rice with curd, wine, agreeable aromas and sounds, gentle rubbing of the body, emollient applications to the eyes and face, a comfortable room and bed and proper time. On the other hand, if a person suffers from a tendency to unhealthy and excessive sleep it should be checked by evacuative therapy, medicated smoking, physical activity, bloodletting, fasting, an uncomfortable bed and subduing of tamas by the promotion of sattvic qualities. However, carried too far, these factors and others like old age, vātaja disorders and vātala constitution may bring on insomnia.

14 *Blood*

When the purity of blood is disturbed many disorders occur.

Blood is pure when it originates in the proper place and time and responds to practical needs. Pure blood endows a person with strength, colour and a healthy life because the vital breath follows blood. Blood becomes impure through various articles of diet, exposure to elements and emotions. Habitual drinking of spoilt or potent wine in large quantities, eating excessive quantities of salty, caustic, sour and pungent foods, horsegram, blackgram, sesamum, tubers, meat of aquatic and marshy animals, oil, curd, vinegar and sour, fermented drinks, stale or spoilt food, and fatty and heavy foods can make blood impure. Excessive exposure to sun and wind, and the transitional period before autumn tend to affect blood adversely. Suppression of the urge to vomit, missing bloodletting when it is due, extreme anger and over-exertion are also capable of making the blood impure.[1]

Blood is regarded as pure when it has the colour of gold, fire fly, red lotus, lac juice or gunjā fruit.[2] Under the influence of vāta, it becomes more red, non-slimy frothy and thin; pitta turns it yellow or blackish with delayed clotting; kapha makes it pale, slimy and viscous. The combined disturbance of doṣas will produce mixed effects.

When the purity of blood is disturbed, many disorders occur. Significant examples include stomatitis, gaseous lump in the abdomen, cellulitis, internal bleeding, blood in urine, excessive bleeding during periods, narcosis, fever, severe debility, skin infections and mental confusion. When curable diseases fail to respond to conventional treatment, one should be alert to the possibility of blood as the source of disease.

For diseases caused by impure blood the treatment essentially aims at countering the impurity in blood and disturbed pitta. The techniques used to achieve this objective are purgation, fasting and bloodletting. If bloodletting is employed, the patient should take appetising and wholesome food and drinks. As the blood in the body is unsettled after bloodletting, special care should be taken that the digestive fire is not impaired by the wrong kind of food.

NARCOSIS (MADA), FAINTING (MŪRCCHĀ) AND COMA (SANYĀSA)[3]

When the body is polluted by unclean food, and the mind by rajas and tamas, the perturbation of doṣas, singly or in combination, is sure to follow. The perturbed doṣas occlude, in varying degrees, the ubiquitous channels which transport blood, chyle and consciousness in the body and bring about alterations in consciousness ranging from fainting and narcosis to coma.

Narcosis may be caused by liquor, passions or vitiated blood, but the mechanism of the loss of consciousness is inevitably tied with the disturbance of the three doṣas. When the narcosis is due to vāta, the patient's speech is slurred, excessive and fast; movement is unsteady; and the face turns blackish or reddish before he falls. In the pittaja version, the patient would become belligerent, harsh in speech and inclined to violence; the face may be crimson, yellow or black in colour. In kapha narcosis the patient would speak little and sound incoherent, and would appear pale, frowsy and limp. In general, the patient recovers spontaneously from fainting and narcosis, including that due to liquor, but when all the three doṣas are disturbed, coma may occur, which does not respond except to medical treatment.

When fainting is due to vāta, the patient loses consciousness seeing the sky as blue, black or reddish. He may have tremors, bodyache, pain over the cardiac region and darkish or reddish hue, but would regain consciousness quickly. When the episode is triggered by pitta disturbance, the patient would see the sky as red, green or yellow and experience thirst, fever, loose stools and redness or yellowness in the eyes. He would recover soon with the appearance of sweating. In kapha-induced fainting, he would see the sky as if covered by dense and dark clouds. The body parts would feel heavy as if wrapped in wet leather and there would be profuse salivation. The recovery of consciousness is slow in this case. When all the doṣas are disturbed, a combination of symptoms would occur and the patient would lose consciousness like an epileptic but without seizures.

Coma is precipitated when the disturbed doṣas are strong, have lodged themselves in the centre for vital breath and impair every activity of the body and mind. The comatose patient looks rigid and cadaveric and dies unless the episode is treated as an emergency. To arouse the patient, the physician's regimen includes several stimulatory measures-collyrium, eyedrops, smoke, needles and hot applications on the skin, painful stimuli on nail bed and the rubbing of the hairy fruits of ātmagupta on the skin to provoke itching. As consciousness improves, strong alcoholic preparations laced with pungent additions should be instilled in the patient's mouth. Other stimulatory drinks could also be tried. When the patient is considered fully conscious, he should be given a light diet and exposed to a joyous environment composed of agreeable talk, narration of stories and reminiscences, music and song and enchanting landscape. The medical procedures which would be beneficial are evacuative measures, gargles, bloodletting and massage of the body. The evacuative measures should be applied only after the patient has been subjected to lubrication and fomentation sequentially. Medications such as pānīya kalyāṇaka ghṛta, tikta ṣaṭpala ghṛta and mahātikta ghrta and rasāyana preparations are beneficial. Bloodletting is also used in the treatment of faints and narcosis. The aim should be to protect the mind besides treating the body.

15 *Food as the Source of Man and His Diseases*

It is necessary to cut through the dark cloud of speculation and arrive at useful knowledge.

SOURCE OF MAN AND HIS DISEASES

Do humans and their diseases trace back their origin to the same source? This is debatable.[1] A view could be taken say, that both are products of self in so far as the self is the ultimate cause and the experiencer of pleasure and pain. However, this is doubtful because self, as the experiencer, can hardly be claimed to inflict pain and disease on its own person. Then, what about the mind, dominated by rajas and tamas? Could it not be the origin of the body and disease? This too seems unlikely because in the absence of the body there cannot be a mind, let alone bodily disease. Then, may be chyle (of which water is the major constituent) is the source of individuals and their diseases? But how can the self and mind emerge from chyle? As a matter of fact, mind transcends sense organs, and disease can be produced even by an entity such as sound which is far from chyle-derived. Could it be that a person and his disease arise from the six dhātus? After all the Sānkhya philosophers have long proclaimed that a person is an agglomeration of six dhātus. However if that were so, a person should be capable of originating from the dhātus in the absence of parents. But it is seen that parents are necessary for the advent of an individual. Moreover, like breeds like, in so far as man, cow or horse can reproduce only their own species. Diseases like diabetes are also transmitted through parents. Therefore a case could be made that genetic inheritance is the source of a person and his diseases. However, it is a fact that a blind father does not produce a blind son. The genetic argument also fails to explain how the original parents themselves emerged. Perhaps, then, a person and his diseases could be the outcome of karma which could produce all kinds of effects. That could however be objected to in so far as a doer must precede action, and there could be no action to produce the original person or his diseases in the absence of a doer. A possibility then is that nature is the cause of a person and his diseases because it endows the elements -earth, water, air and fire - with the qualities of roughness, liquidity, mobility and heat. The elements and their qualities are after all the physical basis of life. But this presupposes that the substratum of elements on its own could produce a person and his transformations without a stimulus, which is not conceivable. May be then, Prajāpati, the descendant of Brahma created the sentient and non-sentient world with its storehouse of pleasure and pain. But Prajāpati is a benefactor and well-wisher of his offspring - surely he could not have created suffering as their lot. The cause then could be none but time which dominates the world and brings everything into existence.

FOOD AS THE SOURCE

The difficulty with such a debate is that each point of view is paraded as a fact and the polemics

could continue indefinitely. It is necessary to cut through the dark cloud of speculation and arrive at useful knowledge. From this standpoint, one could begin by stating that the causes/events that give rise to a person in favourable conditions would bring forth diseases in unfavourable circumstances. What are these causes/events? It is in fact food which is responsible for the development of an individual and for the appearance of disease. The only difference is that food is wholesome in the case of the individual and unwholesome in the emergence of disease. How should one define wholesomeness and unwholesomeness of food, which seem to hold the key to the health and ill health of a person? This would be important because the effects of food are modified by so many factors including quantity, time, preparation, nature of the disease and the condition of the patient. A straightforward definition of wholesome food is that which maintains the balance of dhātus and retrieves the balance after it has been disturbed. This clearly needs elaboration and illustration with specific examples.

Eatables of many different kinds share common properties since they are all articles of food. Food can be classified in other ways:

1. Derived from plant and animal sources (according to the mode of intake as drinks, eatables, chewables and lickables, according to taste as belonging to six categories - sweet, sour, pungent, bitter, salty and astringent)
2. In terms of physical properties, as heavy/light, smooth/rough, soft/ hard, etc., falling into twenty groups.
3. From the standpoint of effects, food may be wholesome or unwholesome. There will be countless variations in food when the diverse properties join and disjoin. What is necessary from the practical point of view is to know which specific items of food are wholesome and which are unwholesome.[2]

WHOLESOME AND UNWHOLESOME FOOD

A list of wholesome items in food would be red śāli rice among cereals, greengram among pulses, rainwater among water from different sources, rock salt among salts, jīvantī among herbs, meat of deer among animal meats, meat of quail among bird meats, meat of iguana among meats of animals living in holes, rohita among fish, ghee among clarified animal fats, cow's milk among milks,'sesame oil among vegetable oils, lard among fats from animals inhabiting marshy land, fat of culuki among fish fats, fat of swan among the fats of aquatic birds, fat of cock among fats of poultry, fat of goat among fats of herbivorous animals, ginger among tubers, grapes among fruits, and sugar among sugarcane products.

The list of unwholesome items includes yavaka among cereals, blackgram among pulses, riverwater during the rains among waters, ūsara among salts, mustard among herbs, beef among animal meats, young dove among birds, frog among animals living in holes, cilacima among fish, ghee from sheep among clarified animal fats, sheep milk among milks, kusumbha among the fats of animals inhabiting marshy country, fat of cataka (sparrow) among fats of herbivorous birds, fat of elephant among fats of herbivorous animals, nikuca among fruits, āluka among tubers, phāṇita among sugarcane products.

List of wholesome foods

An extensive list of 152 items covering diet, drugs and rules of conduct is available, which should be a sufficient guide for maintaining good health and for treating most known disorders.[3] Among the listed items of diet, for example, food is the best for supporting life, wine for relieving tiredness, milk for energising, meat for promoting bulk, salt for enhancing the taste of food, cock meat as tonic, honey among kapha and pitta relievers, and ghee among vāta and pitta palliatives. As examples in the category of drugs, madanaphala is superior among emetics, āragvadha among laxatives, rāsnā among vāta alleviators, gandhapṛiyaṅgu among those stopping internal bleeding, kāśmarya fruit among those stopping bleeding including internal bleeding, regular use of ghee among tonics, regular use of grain flour mixed with equal quantity of ghee among aphrodisiacs, viḍaṅga among anti-helminthics, harītakī among those which keep body channels patent, citraka root for digestive ailments including piles and colitis, gokṣurā among those improving difficult, urination and śālaparṇī among aphrodisiacs.

A few examples of wholesome conduct are regular oil gargle to improve the strength of teeth and taste, intake of food according to the power of digestion, and fresh air among those providing strength and awareness. The examples of unwholesome conduct include eating before the previous meal is digested, overexertion, sexual contact with a menstruating woman or somebody else's partner, excessive sleep and the exclusive intake of one rasa.

The items enumerated in the detailed list rank among the most important in each category just as the Himalaya ranks highest among the sources of medicinal plants, soma among herbs, marshy land among unhealthy locales and āyurveda among the immortal sciences. The physician should be thoroughly familiar with the entities in the list, their action, application and effectiveness before employing them. They are capable of settling disorders of vāta, pitta and kapha and countering all major diseases. However, the use of the entities must take into account the role of 'pathyā' which ensures that what is prescribed is favourable to the flow of substances through the body channels and that it is agreeable to the patient. Nor should it be forgotten that the effects of what is administered from the listed formulary are influenced in no small measure by the dose, method of preparation of the medication, nature of the disease and time of the season.

What about āsavas of which one hears often? They have not found mention in the list, but figure prominently in treatment. Āsavas are fermented preparations made from cereals, fruits, root, core wood of trees, flower, stem, leaf and bark with the addition of sugar. Given the many different combinations and methods of preparation, there are innumerable āsavas but the most agreeable are 84 in number.

To enumerate, six are made from cereals (dhānyāsavas), 26 from fruits(phalāsavas) eleven from roots (mūlāsavas), 20 from the core of tree trunks (sārāsavas), ten from flowers (puṣpāsavas), four from stems (kaṇḍāsavas), two from leaves (patrāsavas), four from barks(tvagāsavas), and one from sugar (śarkarāsava). Āsava owes its name to fermentation (āsūta) which weighs on its chemistry and therapeutic effects. Āsavas improve digestion, strengthen the body and mind and relieve insomnia and anxiety. Above all, they beget a sense of gaiety and wellbeing.[4]

16 *Rasas*

Earth, in turn, is held together by water.

EVOLUTION AND ATTRIBUTES OF RASAS

Substances (dravyas) which constitute food and drugs, indeed everything living and non-living, are evolved from the five elements (earth, water, air, fire and ether) of which earth is the substratum.* Earth in turn, is held together by water. In the evolution of substances, the earth-water complex is acted upon by air, fire and ether, which enter into the composition of all substances. In other words, all substances consist of the five elements whose qualities will appear in them in varying proportions. A given substance however bears the name of the element that is dominant in its composition.

The six rasas or tastes - sweet, sour, salty, pungent, bitter and astringent - are the products of water and originate during the evolution of substances. Their proportion in substances varies in proportion to the elements. Even though all six tastes are present in substances, some are dominant while others are hardly detectable. The taste that is dominant and easily detected by the tongue is the primary taste of a given substance; other tastes which are latent are secondary (anurasa). The tastes trigger the accumulation of doṣas in the body through the medium of substances and given the presence of the six tastes, all the three doṣas are perturbed simultaneously, never one alone. It is however true that the perturbation of the three doṣas is not equal, and disorders may be called vātaja, pittaja or kaphaja on the basis of the dominant doṣa that is affected.

The six tastes are sensed by the organ of taste in the tongue. How then can qualities such as lightly/heavy, hot/cold, soft/hard be ascribed to sensations picked up by the taste organ? The answer lies in the coexistence of tastes and twenty physical qualities and the transposition of the dominant physical quality of a given substance to its dominant taste for practical and descriptive purposes. In other words, if a substance is heavy and has a dominant taste of sweetness, the sweetness is termed heavy. It is in this sense that one should understand how the pungent, sour and salty promote heat; bitter, astringent and sweet stimulate cold; bitter, hot and astringent predispose to roughness, obstruct vāta and the excretion of urine and feces; salty, sour and sweet are lubricant and smoothen the passage of vāta, urine and feces; salty astringent and sweet are heavy; and sour, pungent and bitter are light. The fact is that rasa is the fundamental and primordial quality of water and of earth - it only

undergoes countless transformations during the interaction of the earth-water complex with the other elements and the consequent evolution of substances when each successive stage acquires the taste of its predecessor. Although there are six basic tastes there are innumerable variations in taste.[1]

Medications are substances which possess all the qualities and actions of the five elements which constitute them. No wonder, there is hardly any substance in the world which cannot be used as a drug or medication provided the objective is clear and the application is rational. Qualities including taste play a vital, but not exclusive, role in the therapeutic action of medications. There are also other determinants of action which are the nature of action (karma), the state of potency (vīrya) which brings about action, the site of action (adhikaraṇa), the time of action (kāla), and the way action takes place (upāya). When all these determinants are taken into account, there are 63 variations and combinations of tastes which characterise a corresponding number of substances. For example, when two tastes combine(sweet with another taste or sour with others), there are 15 combinations which characterise a corresponding number of substances. Similarly, the combinations of three rasas will result in 20 substances and so on.[2] The number goes beyond 63 when various secondary rasas are also considered. Some scholars have put the number of important combinations at 57 and the forms of rasas at 63. By permutation and combination, the doṣas can also be enumerated as 62 combinations causing disease, the sixty-third resulting in health. For practical purposes, it would suffice for a physician to prescribe drugs possessing one, two or a combination of rasas keeping in view the specific disturbance of doṣas in the patient. An experienced physician who knows the correlation between the fluctuations in doṣas and tastes is seldom confused when confronted by many different diseases.

The six primary tastes are experienced by the taste organ in the dry and moist states of substances, and at the beginning and end of the tasting process. Secondary tastes which are latent are not recognised and the total number of tastes does not therefore exceed six. As noted earlier, the tastes trace their genesis to the element water (that drops from the sky). At the time of the formation of water, it is cold and light and the rasa is latent. Water indicates a lunar influence in the formation of the latent rasa. The addition of the respective qualities of the elements and the development of other tastes in water take place when the droplets descend through the atmosphere. Thus enriched, water nourishes plant and animal life on earth. Because of the contribution of the five elements to the evolution of tastes in the final stage, each rasa, except madhura, is said to reflect the major characteristics of two of the elements. Madhura shows the solitary influence of soma which started off in the first place as a latent taste when the droplets of water formed in the sky: sour is a product of earth and fire, salty of water and fire, pungent of air and fire, tikta of air and ether, and astringent of air and earth. In the combination of the five elements to form substances as well as in the incorporation of tastes, place, time and seasons too play a role: the proportions are not fixed irrevocably. For example, fruits grown in different places, at different stages of ripening and in different seasons differ in taste. The tastes composed of fire and air generally move upwards because of their lightness, just as wind blows the flames of the fire skywards. On the other hand, tastes formed by water and earth drift downwards, because they are heavy and because of water's tendency to seek the lowest level. Where the five elements are mixed, the taste could move upwards, downwards or both ways. The effects of the tastes on the body depend on the constituent elements which dominate them. The description of each rasa testifies to this.[3]

SIX RASAS

Sweetness (madhura)

Sweetness is agreeable to the body. It spreads easily in the mouth as if depositing a thin layer. It builds blood, muscle, fat, bones, marrow, ojas and semen, and tends to prolong lifespan. It pacifies disturbed pitta and vāta and settles toxic reactions. It also pleases the sense organs besides imparting strength and colour. It is good for the skin, hair and the throat. It is lubricant, cold and heavy. It nourishes, promotes bulk and stimulates healing. Bees and ants are strongly attracted to it. These are some among its many qualities. For all that, it can give rise to kapha-induced disorders if used alone or in excess. These include obesity, inertia, loss of desire for food, sleepiness, shortness of breath, cough, fever with shivering, abdominal distension, swelling in the neck, goitre, swelling in the leg, eye disease and a slimy deposit in the bladder, blood vessels and throat.

Sourness (amla)

Sour taste is an appetiser because it contains a fire element. It is light, hot and lubricant. Once in the mouth, it sensitises the teeth, induces salivation and sweating and a burning sensation in the mouth and throat. It sharpens the digestive fire, builds and energises the body, makes sense organs strong, alerts the mind, gives proper direction to the digestive wind, protects the heart, increases salivation, moistens, digests and carries the food down, and gives satisfaction. However if used in isolation or excessively, it over-sensitises the teeth, enhances thirst, provokes gooseflesh, melts kapha, aggravates pitta, causes blood disorders, generates heat in the muscles and causes flaccidity of the body, produces swelling in wasted individuals and suppuration in wounds, injuries, bites, fractures, insect bites and sites damaged by urine. It also gives rise to a burning sensation in the throat, chest and cardiac region.

Saltiness (lavaṇa)

Salt dissolves instantly and causes moistening, watering and softening in the oral cavity. It enhances appetite and digestion, improves expectoration, relieves vāta disturbances and stiffness, makes room by breaking down masses, acts as a laxative as well as an irritant, liquefies kapha and opens up body channels, makes body parts supple and overshadows other rasas. It is not too heavy, lubricant or hot. If used alone and in very large quantities, it perturbs vāta, disturbs blood and causes heat, aggravates skin diseases including leprosy, ruptures inflammatory swellings, worsens the effect of poison, impairs potency, obstructs sense organs and produces wrinkles, grey hair and baldness.It may also be responsible for internal bleeding, cellulitis and even loss of consciousness.

Pungency (kaṭu)

Pungent taste gives rise to irritation and stabbing pain in the tongue, and stimulates burning and secretion from the eyes and nose. It clarifies sense organs, reduces swelling, obesity, urticaria, blocking of body channels, lubrication and fomentation and improves appetite. It cures itching and ulcers, destroys organisms, stimulates muscles, retards blood clotting, and quells the turbulence of kapha. It is light, hot and rough. If used alone and excessively, it impairs sexual potency and strength, and causes invalidism, depression, debility, giddiness, thirst and fainting. Because this taste is largely composed of vāyu and agni, it provokes vāta disorders in the extremities, back and sides with jerky movements, tremors and severe radiating pain.

Bitterness (tikta)

In itself distasteful, bitter (tikta) removes distaste. It removes all other taste sensations and produces

non-slipperiness and dryness in the mouth and a strange feeling of cheerfulness. It destroys poisons and worms, relieves itching, burning sensation, fainting spells and thirst, imparts firmness to the skin and muscles, improves appetite and digestion and brings down fever. As a slimming and reducing agent it mops up moisture, fat, muscle, marrow, lymph, pus, sweat, urine, feces, pitta and kapha. However, in excessive and single application, tikta rasa can produce harmful consequences such as roughness, desiccating effect on rasa dhātu, blood, muscle, fat, bone, marrow and semen, obstruction in the body channels, loss of strength and emaciation, giddiness and mental confusion, and other vātaja disorders.

Astringent (kaṣāya)

The astringent taste causes non-slipperiness, lack of mobility and coldness in the tongue, congestion in the throat and depression. It has qualities which make it pacificatory, astringent, uniting, compressing, healing, mopping and restraining. It settles disturbances of kapha, blood and pitta, uses the action of body fluids and is rough, cold and not light. In overdose, its adverse effects are dryness of mouth, headache and obstruction of voice, flatulence, sluggishness of flow through body channels, impotence, blackish discolouration, restraint on the flow of urine, flatus, feces and semen, thirst and emaciation, and vāta disorders such as paralysis of one side of the body or one side of the face, spasm and convulsions.

ACTION OF TASTES

Substances which constitute diet and drags are labelled after the taste which dominates them. However, the changes that they undergo on ingestion are not exclusively determined by taste. The additional factors which govern the transformation of substances in the gut and bring about various actions and changes in the body are potency and post-digestive taste. What enables any substance to effect an action is potency. Action is the evidence of potency, and action here means induced events such as vomiting, purgation and sweating. Potency is classified as cold (śīta) and hot (uṣṇa) for practical purposes. A substance cannot produce action in the absence of potency. For example, a substance which is madhura in rasa as well as in vipāka has śītavīrya whereas another which is amla in rasa as well as in vipāka has uṣṇavīrya. In general, mental satisfaction, slowing down flow through body channels, augmenting ojas and pacifying the disturbances of pitta and blood are associated with śītavirya; digestion, sweating, solution and settling the perturbation of vāta and pitta are the characteristics of usnavīrya. There are however several exceptions in these categories.[4] It turns out that one cannot administer drugs solely on the basis of rasas in so far as substances with similar rasas can exhibit differences in outcome in different individuals. In terms of the prominent qualities of roughness, hotness, coldness, heaviness and lightness, the six rasas have been rated as belonging to low, medium and high degrees to guide the physician.[5]

Post-digestive taste is the latter phase of digestion in the gut when the products of the earlier phase are processed and assimilated. Whereas rasa is known by its taste, and potency by the action effected from the time of the ingestion of the substance till its elimination, post-digestive taste is recognised by the final effect of the action on the functional aspects of the body.[6] In vipāka, substances with pungent, bitter and astringent rasas evolve into pungent or kaṭu vipāka: sour remains sour, and sweet and lavaṇa become madhura vipāka. Kaṭu vipāka perturbs vāta and obstructs the passage of urine and feces besides spoiling semen; madhura vipāka does the opposite by promoting the evacuation of urine and feces and increasing semen and kapha. Amla vipāka aggravates pitta, assists the elimination of

feces and urine and damages semen. Madhura vipāka is heavy and the other two vipākas are light. Based on the variations in qualities, vipāka is also classified into low, medium and high degrees.[7]

However, it is observed that, in some circumstances, a particular outcome induced by a substance cannot be rationally explained on the basis of the similarity in rasa, potency or post-digestive taste. The unexplained outcome here is due to specific effective action (prabhāva).[8] Specific effective action would also explain why a substance with a particular quality performs a particular action while another substance with the same quality fails to repeat the performance. For example, citraka is pungent in rasa and post-digestive taste and uṣṇa in virya; dantī has all of citraka's qualities and is also a purgative and induces vomiting. Certain poisons counter other poisons due to specific effective action. The beneficial effects of wearing precious stones could be attributed to specific effective action. In a trial of strength vipāka overcomes rasa, virya subdues both, and prabhāva overcomes all three.

ANTAGONISM IN FOOD SUBSTANCES (VAIRUDHYA)

Antagonism exists among food substances. They may be rooted in the food per se or may be related to certain properties, combinations, method of preparation, place, time, dose or the constitution of the individual and associated idiosyncracies.[9] The contrariness in food and drinks is capable of perturbing doṣas and causing a wide range of disorders which could even be fatal.

Milk which is a common article of food is incompatible with many other common items. Milk is antagonistic to all kinds offish, and the antagonism results in serious occlusion of body channels and several other disorders. Radish, garlic, śigru, tulasī, pot herb of jātuka, ripe fruit of nikuca, kaṅgu, vanaka, kulattha, blackgram, fruits such as āmra, mātuluṅga, karamarda, badara, jambu etc., and all sour liquids are incompatible with milk.

There are many other examples of similar incompatibilities. Meat of domestic, marshy and aquatic animals with honey, sesamum, jaggery, milk, blackgram; meat of hāridraka fried in mustard oil; rice cooked in milk with mantha (a fermented drink made of roasted grain flour) and the meat of crane with a wine called vāruṇī. The examples of fatal antagonisms include the meat of peacock impaled on eraṇḍa sticks and cooked over fire with castor firewood, and the meat of hāridraka impaled on a stick of haridrā plant and cooked over fire with haridrā twigs. The list of food incompatibilities is given in 16.1.[10]

Table 16.1

Food articles	Incompatible accompaniment	Effects
1. Milk	Fish (especially cilicima)	Severe indigestion: food poisoning (āmaviṣa)
2. Meat	Honey, sesamum, jaggery, milk, blackgram	Deafness, blindness, tremors, nasal voice, death
3. Pigeon meat fried in mustard oil	Honey, milk	Blocks blood circulation; causes seizures, goitre, death
4. After eating radish, garlic, tulasī	Milk	Leprosy and skin diseases
5. Potherb of jātuka, nikuca fruit	Honey and milk	Loss of strength, death
6. Nikuca fruit	Blackgram, pulse, jaggery, ghee	Loss of strength, death
7. Fruit of āmra, mātuluṅga, nikuca, jambu, nārikēla, etc., and all sour items	Milk	Ill health (effects not specified)
8. Kaṅgu, blackgram, niṣpāva	Milk	Ill health (effects not specified)
9. Potherb of kusumbha, wines like maireya, honey	All used together	Ill health (effects not specified)
10. Hāridraka (bird) meat	Fried in mustard oil	Vitiates vāta
11. Rice cooked in milk	Fermented drink (mantha)	Vitiates kapha

12. Potherb of upodika	Cooked with sesamum paste	Causes diarrhea
13. Meat of crane	Wine (vāruṇī), grain soaked and fried	Ill health (effects not specified)
14. Fried meat of peacock (barbecued)	Castor oil	Death
15. Hāridraka (bird) meat (Barbecued)	Mixed with ash and dust	Death
16. Pippalī	Cooked in fish oil	Death
17. Kākamācī	Honey	Death
18. Honey Honey Honey	Ghee (Mixed in equal quantities); Rainwater (mixed in equal quantities Lotus seed	Ill health (effects not specified) Ill health (effects not specified) Ill health (effects not specified)
19. Bhallātaka/ kampillaka cooked in buttermilk	Followed by drinking hot water	Ill health (effects not specified)
20. Stale kākamācī (barbecued)	Followed by drinking hot water	Ill health (effects not specified)

The antagonisms which relate to place, time and other circumstances belong to a different category.[11] Antagonism of space occurs when rough and hot substances are used in a dry and arid region, and cold and lubricant items in a wet region. Antagonism of time occurs when rough and cold substances are consumed in winter and hot and sharp foods in summer. There are many other examples which illustrate similar antagonisms in relation to the state of the digestive fire in the individual, the processing of food, potency, bowel habits, health status, food and hygienic habits, diet code, cooking procedure, personal likes and dislikes, and excess of rasas of three categories in food. Even the violation of the code for eating in private is a form of antagonism!

Antagonistic food may produce a variety of disorders which include impotence, blindness, cellulitis, fluid in the belly, suppuration, anal fistula, pallor, leucoderma, fever and several others. They may even turn fatal. The treatment of these disorders depends primarily on evacuative measures such as emesis and purgation, antidotes to quell perturbed doṣas and enhancing body resistance by prior and gradual administration of the offending substances. The antagonism is mitigated by habituation, ingesting only small quantities of the substance, strong digestive fire, physical activity, youth and the strength of the individual.

17 Food and Drinks

Vedic rituals for attaining heaven are no less dependent on food than working for a living.

Food and drinks that appeal to the eye, taste and feel, and are taken according to a dietary code, are the sustainers of life. They are the fuel for the digestive fire which burns within the body. The dhātus and their strength, complexion, clarity of senses and the energy that drives the mind derive from burning food. If food and drinks are ill chosen, ill prepared or ill served, the consequences will be harmful. It is not sufficient to know the general properties of food substances (such as water wets, milk vivifies, meat builds, drākṣāsava improves appetite and so on). A broad classification of the wide range of foods is essential for designing diets. Accordingly they are grouped as follows:

1. Śūkadhānya (grains with husk)
2. Śamīdhānya (pulses)
3. Māmsa (meats)
4. Śāka (vegetables)
5. Phala (fruits)
6. Harita (greens)
7. Madya (alcoholic drinks)
8. Jala (water)
9. Gorasa (milk and milk products)
10. Ikṣu (sugarcane products)

Cooked preparations (kṛtānna) and additives (āhārayogi) are not formally listed in the groups even-though they are obviously important.

Each of the groups is outlined in the following tables:

Table 17.1 Grains (śūkadhānyas)[i] , [1]

Sl. No.	Names	Qualities	Effects on doṣas	Other effects in the body
1	Śālī varieties (rice)	Cold, sweet, lubricant	Quells three doṣas	Promotes bulk, semen; Promotes output of urine
2	Ṣāṣṭikā varieties (rice)	Cold, lubricant, sweet, stable	,,	Similar to above
3	Vrīhi (rice)	Sweet, heavy	Perturbs pitta; perturbs three doṣas	Promotes output of urine and feces
4	Śyāmāka (rice)	Astringent, sweet, light, cold	Perturbs vāta, settles pitta and kapha	Constipating
5	Hastiśyāmaka family (rice)	Astringent, sweet, light, cold	Perturbs vāta, settles pitta and kapha	Constipating
6	Yava (barley)	Rough, cold, non-heavy, sweet, astringent	Relieves kapha disorders	Bulky stools, easy flatus; promotes stability
7	Veṇuyava (bamboo seed)	Rough, astringent, sweet	Relieves kapha and pitta disorders	Strengthening: good for obesity, helminthiasis and poisoning
8	Godhūma (wheat)	Sweet, cold, aphrodisiac, heavy, lubricant, uniting	Relieves vāta	Promotes bulk
9	Nāndīmukhī, Madhuli (wheat varieties)	Sweet, lubricant, cold	-	-

Table 17.2 Pulses (śamidhānya)[ii],[2]

Sl. No	Names	Qualities	Effects on doṣas	Other effects in the body
1	Mudga (greengram)	Astringent, sweet, rough, cold, light, clear, kaṭu vipāka. Best among pulses.	Relieves kapha, pitta	
2	Māṣa (blackgram)	Lubricant, hot, sweet, heavy	Good for vāta	Aphrodisiac, strengthening, produces bulky stools
3	Rajāmāṣa (red kidney beans)	Sweet, rough, astringent, clear, heavy	Disturbs vāta, alleviates kapha	Relieves stomach and semen disorders; laxative
4	Kulattha (horsegram)	Hot, astringent, amḷapāka	Relieves disorders of kapha, vāta and semen	Constipating: good for cough, dyspnea, hiccup and piles
5	Makuṣṭha	Sweet, madhurapāka rough, cold	-	Beneficial in fever, internal bleeding
6	Caṇaka (gram), Masūra (lentil), khaṇḍikā, hareṇu (peas)	Light, cold, sweet, astringent, rough	Good for pitta and kapha	Masūra is constipating
7	Tila (sesamum)	Lubricant, hot, sweet, bitter, astringent, pungent	Pacifies vāta; disturbs pitta and kapha	Good for skin, hair, body, strength
8	Śimbī	Rough, astringent	Perturbs vāta in the gut	Digests with wind

			formation; non-aphrodisiac, not good for the eyes

Table 17.3 Meats (māmsa)[iii],[3]

Sl. No.	Names	Qualities	Effects on doṣas	Other effects in the body
1	Animals which grab prey (prasahā) e.g: cow, ass, camel, lion, bear, dog, tiger, cat, mouse, crow, vulture etc.	Heavy, hot, sweet	Relieves vāta, disturbs pitta and kapha	Good for phthisis; loose stools; strengthens the body
2	Animals living in burrows/ tunnels (bhūmiśaya) e.g. python, frog, iguana, mongoose	Madhura vipāka, kaṣāya and kaṭu in rasa (iguana)	Relieves vāta and pitta (iguana)	Useful for the strong with good digestive power and physical activity in general. Bulk promoting and tonic (iguana)
3	Animals living in wet country (ānūpa mṛga). e.g. boar, yak, pig, rhinoceros, cow, buffalo	Heavy, hot, sweet Lubricant, heavy (pork)	Relieves vāta aggravates kapha and pitta Relieves vāta	Appropriate for those with high level of physical activity and digestion. Obstructs channels, strengthening, promoting,

	Elephant, deer	Lubricant, hot, sweet, heavy (buffalo meat)	Good in vāta disturbance (beef)	improves complexion (rhinoceros), bulk promoting, aphrodisiac, improves strength, appetite, sweating (pork). Good for chronic cold, recurrent fever, dry cough, wasting, excessive digestive agni (beef), builds bulk, firmness, improves morale and sleep (buffalo meat)
4	Animals living in water (vāriśaya) E.g. tortoise, crab, fish, whale, oyster, crocodile etc.	Heavy, hot, sweet, lubricant (fish)	Relieves vāta (fish) Relieves vāta (tortoise)	Promotes bulk; aphrodisiac, has many defects (fish) good for complexion, aphrodisiac, improves vision, intellect; destroys phthisis (tortoise)
5	Animals moving on water (vāricāri) E.g. swan, crane, kāraṇḍava, kadamba, utkrōśa, jalakukkuṭī, nandīmukhī, cakravāka etc.	Heavy, hot, sweet	Relieves vāta; disturbs pitta and kapha	Appropriate for those with high level of physical activity and strong digestion

6	Animals in forests (jāṅgalamṛga) E.g. deer, sarabha, hare, eṇa, śambara, kālapucchaka etc.	Astingent, non-slippery, rough, cold, light, kaṭuvi-paka (hare), madhura, madura vipāka, light, cold (eṇa)	Beneficial in sannipāta with mild vāta (hare). Settles three doṣas	Diminishes urinary troubles; constipating
7	Birds which scatter grain while eating (lāvādyas) E.g. common quail, kapinjala, cakora, kukkubha etc.	Light, cold, sweet, astringent	Pacifies sannipāta where pitta is dominant and vāta is moderate	
8	Birds of the poultry category (vartakādi) E.g. bustard, peacock, partridge, cock, kanka, indrābhā etc	Lubricant, hot (cock) Heavy, hot, sweet, (partridge)	Relieves vāta disturbance (peacock) Alleviates vāta (cock). Relieves perturbation of three doṣas with dominant vāta (partridge)	Improves vision, hearing, intellect, agni, complexion, voice; builds mu-scle and semen Builds bulk, voice, evokes sweating (cock)
9	Birds which eat while striking (pratuda) E.g. śatapatrā, kōkilā, kapota, śūka, sāranga, caṭaka etc.	Astringent, non-slippery, cold, madhura vipāka (domestic pigeon) Astringent, sour, pungent, cold (parrot), light sweet, lubricant (caṭaka)	Pacifies vāta; vāta dominated sannipāta	Controls internal bleeding (domestic pigeon) useful in phthisis, appetite; constipating (parrot) Promotes strength and semen (caṭaka)

Goat and sheep are not included in the above groupings because their turf is mixed and variable. Goat meat is neither heavy nor cold or lubricant. It does not perturb the doṣas or block the body channels, but adds to the bulk of the body.[4]

Table 17.4 Vegetables (śāka)[iv],[5]

Sl. No.	Names	Qualities	Effects on doṣas	Other effects in the body
1	Pāṭhā, kāsamarda, śaṭī, vāstuka etc.		Alleviate three doṣas	Constipating except vāstuka which is laxative
2	Kākamācī	Not too hot or too cold	Alleviates three doṣas	Aphrodisiac, rasāyana, purgative, anti-leprotic
3	Rajakṣāvaka	Light	Alleviates three doṣas	Constipating: beneficial for piles
4	Kālaśāka	Pungent, light, hot, rough	Perturbs vāta	Improves appetite, good for swellings: antidote to poisons
5	Amlacāṅgērī	Uṣṇavīrya	Good in kapha and vāta disturbance	Appetiser; constipating: beneficial in piles
6	Upodika	Madhura rasa, lubricant, cold	Aggravates kapha	Purgative, aphrodisiac, anti-narcotic
7	Taṇḍulīya	Rough, cold, madhura rasa		Beneficial in narcosis, poisoning, internal bleeding

17	Trapuṣa, ervāruka	Sweet, heavy, cold, rough	-	Improves urine output; ripe fruit relieves burning, sensation, thirst, fatigue
18	Alābu	Rough, cold, heavy	-	Purgative
19	Ripe fruit of kūśmāṇḍa	Sweet, sour, light, alkaline	Alleviates all doṣas	Diuretic, laxative
20	Kelūṭa, kadamba etc.	Non-slippery, heavy, cold	-	Block body channels
21	Utpala varieties	Astringent	-	Beneficial in internal bleeding
22	Tālapralam-bha	-	-	Beneficial in wounds and chest pain
23	Tarūṭa, lotus root and stem, krauncādana etc	Heavy, obstructing, cold	Aggravates kapha and vāta	
24	Lotus seeds	Madhura in rasa and vipāka, astringent	-	Beneficial in internal bleeding
25	Munjātaka	Cold, heavy, lubricant, sweet	Relieves vāta and pitta	Promotes bulk and strength; aphrodisiac
26	Vidārikaṇḍa	Sweet and cold		Rasāyana; promotes bulk and strength; beneficial for throat; aphrodisiac
27	Amlīkā tuber	Light: not very hot	Relieves vāta and kapha	Beneficial in unripe and loose stools; piles;
				alcoholism; constipating
28	Mustard	-	Aggravates three doṣas	Constipating; diminishes urinary output
29	Mushroom varieties	Cold, sweet and heavy	-	Causes rhinitis

Table 17.5 Fruits (phala)[v],[6]

Sl. No.	Names	Qualities	Effects on doṣas	Other effects in the body
1	Grapes	Sweet, cold, lubricant	Alleviates vāta and pitta	Relieves fever, dyspnea, thirst, internal bleeding, wasting, hoarse voice, alcoholism, dryness of mouth,cough; bulk promoting; aphrodisiac
2	Āmrāta	Sweet, heavy, slightly lubricant, cold	Perturbs kapha	Promotes bulk; tonic; improves digestion but with distension; aphrodisiac
3	Tāla, nārikēla fruit	Lubricant, cold, sweet		Promotes bulk, tonic
4	Bhavya (kāśmarya very similar)	Sweet, sour, astringent, heavy, cold	Perturbs pitta and kapha	Cleanses mouth; constipating
5	Sour fruits E.g. Parūṣaka, grapes, jujube, etc.	-	Aggravates pitta and kapha	-

6	Pārāvāta (two types)	Heavy		Reduces excessive digestive agni and appetite
7	Ṭaṅka	Astringent, sweet, heavy, cold	Disturbs vāta	-
8	Kapittha (unripe)	Aggravates vāta		Constipating; irritates throat; counterspoisons
	(ripe)	Sweet, sour, astringent, heavy	Relieves doṣas	Fragrance adds to tastes, counters poison, constipating
9	Bilva (unripe)	Lubricant, hot, sharp	Relieves kapha and vāta	Improves appetite
	(ripe)		Disturbs doṣas	Poorly digested: flatulent
10	Āmra (unripe)			Causes internal bleeding.
	(ripe)		Relieves vāta	Promotes strength, semen and develops muscles
11	Jambu	Astringent, sweet, heavy, cold	Disturbs vāta, relieves kapha and pitta	Flatulent; constipating
12	Jujube	Sweet, lubricant	Relieves vāta, pitta	Purgative
	(Dried)	Sweet, lubricant	Relieves kapha and vāta: does not antagonise pitta	
13	Śimbītikā	Sweet, astringent, cold	-	Constipating

14	Gāṅgerukī, karīra, bimbi etc.	Sweet, astringent, cold	Relieves pitta and kapha	
15	Panasa, moca rājādana (ripe)	Sweet, astringent, lubricant, cold, heavy		
16	Lavalī	Astringent, non-slippery, fragrant	Disturbs vāta	Useful as condiment
17	Nīpa, pīlu, ketaki		Relieve all doṣas	Counter poisons: anti-toxic
18	Iṅgudī	Bitter, sweet, lubricant, hot	Relieves kapha and vāta	-
19	Tinḍuka	Astringent, sweet, light	Relieves kapha and pitta	-
20	Āmalaka	All rasas present except salt; rough, sweet, astringent, sour	Relieves kapha and pitta very well	-
21	Bibhītaka	-	-	Good for disorders of rasa, blood, muscle and fat; improves voice, pittaja diseases and copious sputum
22	Dāḍima	Sour, astringent, sweet, lubricant	Relieves vāta; compatible with kapha and pitta	Controls diarrhea
23	Vṛkṣāmla (ripe tamarind has a similar effect)	Rough, hot	Beneficial for vāta and pitta	Controls diarrhea

24	Amḷavetasa	Rough, hot	Beneficial for vāta and pitta	Beneficial in bowel disorders, loss of appetite, hiccup, alcoholism, cough and dyspnea, and vāta and kapha disorders
25	Karcūra (without skin)	-	Relieves kapha and and pitta	Improves appetite, beneficial in dyspnea, hiccup and piles
26	Nāgaraṅga	Sweet, mildly sour; heavy	Relieves vāta	Improves appetite; difficult to digest
27	Vātāma, abhiṣuka, etc (priyāla is similar except it is not hot)	Heavy, hot, lubricant, sweet	Relieves vāta, perturbs kapha and pitta	Promotes bulk; aphrodisiac
28	Śleṣmātaka	Sweet, cold	Disturbs kapha	
29	Aṅkoṭa	Heavy	Disturbs kapha	Diminishes digestive agni, causes abdominal distension
30	Śamī	Heavy, hot, sweet, rough	-	Causes hair loss
31	Karañja	-	Compatible with vāta and kapha	Flatulent
32	Āmṛātaka, dantaśaṭha etc. (sour)	-	-	Causes internal bleeding

33	Vārtāka	Pungent, bitter	Relieves vāta	Improves appetite
34	Parpaṭakī	-	Perturbs vāta, relieves kapha and pitta	
35	Akṣikī	Sour	Relieves pitta, kapha, perturbs vāta	-
36	Aṇupākī	Sweet, amḷavipāka	Relieves pitta and kapha	-
37	Aśvattha, uḍumbara etc.	Astringent, sweet, sour, heavy	Perturbs vāta	-
38	Bhallātaka (stone of fruit flesh)	fiery, sweet,	cold	

Table 17.6 Greens (harita))[vi],[7]

Sl No.	Name	Qualities	Effect on doṣas	Other effects in the body
1	Ādraka (ginger)		Relieves vāta and kapha	Improves appetite aphrodisiac; good for constipation
2	Jambīra		Relieves vāta and kapha	Improves appetite, fragrant, cleans mouth digestive; good for treating worms. Irritant
3	Mūlaka (Radish) (Old)		Relieves three doṣas Aggravates three doṣas	

	(Fried in fat) (Dried)		Relieves vāta Relieves vāta and kapha	
4	Surasā		Perturbs pitta. Relieves kapha and vāta	Removes cough, foul smell shortness of breath, and pain on the sides of the trunk
5	Yavāni, śigru, etc.		Perturb pitta	Juice is pleasing
6	Gaṇḍīra, jalāpipalī, etc	Hot, pungent, rough	Relieve kapha and vāta	
7	Bhūṣtṛṇa	Pungent, hot, rough	-	Cleans mouth, harmful to sexual potency
8	Kharāhva	-	Relieves kapha and vāta	Good for diseases of urinary bladder
9	Dhānyaka; ajagandhā etc.	Not very pungent	Perturb doṣas	Appetising, fragrant
10	Gṛñjanaka		Beneficial for vāta and kapha disorders	Constipating, irritant; good for piles: useful in fomentation and in the diet for those without pittaja disorders
11	Palāṇḍu	Heavy	Perturbs kapha; relieves vāta	Useful in diet, promotes strength, aphrodisiac, appetising
12	Laśuna	Lubricant, hot, pungent, heavy	Relieves vāta	Good for worms, leprosy, leucoderma, gaseous abdominal swelling, aphrodisiac

Table 17.7Alcoholic drinks (madya)[8]

5	Śarkarā			Tasty, intoxicant, fragrant, improves digestion; relieves disorders of urinary bladder
6	Pakvarasa		Relieves kapha disorders	Improves appetite, complexion, useful in treating phthisis, swelling, piles
7	Śitārasikā			Improves digestion, voice and complexion; beneficial in swelling, abdominal disorders, piles; useful for slimming
8	Gauḍa			Eases passage of flatus and feces; improves appetite
9	Akṣiki			Improves appetite; good for treating anemia and wounds
10	Surāsava		Relieves vāta	Strong intoxicant; tasty
11	Madhvāsava	Sharp		Expectorant
12	Maireya	Sweet and heavy		
13	Āsava of grapes, sugarcane juice with dhātaki flowers	Rough, not very hot		Similar in effect to madhvāsava

14	Madhu	Light	Relieves kapha, not antagonistic to pitta, little	Relieves constipation, improves appetite effect on vāta
15	Surā with maṇḍa of barley gruel (upper clear layer)	Rough, hot	Perturbs vāta and pitta	
16	Madhūlikā	Heavy	Perturbs kapha	Produces flatulence during digestion
17	Sauvīraka and tuṣodaka			Improve appetite and digestion; beneficial for abdominal swelling, piles, helminthiasis and heart disorders
18	Sour vinegar (external application)		Relieves vāta and kapha disorders	Relieves fever and burning sensation (internal use)
19	Fresh wine Old wine	Heavy Light	Aggravates doṣas	 Tasty, improves appetite, opens body channels

Wine creates mirth; removes fear, grief and fatigue; enhances confidence, energy and imagination; and adds to strength and weight. If used according to a sāttvic code, it is like nectar.

WATER[9]

The source of all water is rain which falls from the sky. Rainwater undergoes many changes in its transit from the sky, and its deposition on the earth. Rainwater is cold, clean, pleasing, sweet, stainless and light, but the properties change in response to the host soil. In white soil, water is astringent, in brown alkaline, in barren and salty, saline, in milky pungent and in black sweet. The six tastes are thus reflected in the water on earth while water from rain, hail or snow contain rasa in a latent form. The best water should be sweet and mildly astringent, light, non-slimy, non-rough and not obstructive of flow through body channels.

The qualities of rainwater also change in response to the seasons. During rains, it is heavy and sweet but is likely to block body channels. In the autumn, water is thin, light and non-obstructive and should be used for preparing various types of food for those with delicate constitutions. In early winter water becomes lubricant, heavy, strengthening and promotive of virility; in late winter, it turns lighter and relieves the perturbation of kapha and vāta. In spring, water is sweet, astringent and rough: summer brings forth water which does not block the body channels. When the seasons are deranged, the quality of water deteriorates and causes harm. Water collected in autumn is especially suitable for delicate persons and kings.

The waters of the Himalayan rivers are sanctified by serving the saints: they are swift, sliced by rocks, ebullient and wholesome. The waters from Malaya mountains carry rocks and sand, but are clean and nectarine. The west-flowing rivers have clean water while those flowing to the eastern sea are slow-moving and heavy. The rivers flowing from the Pāriyātra, Vindhya and Sahya mountains have water which may cause disorders of the head and heart, filariasis and skin disease including leprosy.

When riverwater is contaminated with dirt, feces, insects, snakes and rats, and is additionally charged with rainwater, it perturbs all the three doṣas. The positive and negative qualities of water in ponds, tanks, lakes, springs and rivulets depend on their location (wet, dry or hilly terrain), Water which is slimy, thick, malodorous and laden with leaves and insects should be avoided. Seawater has a fishy smell and aggravates doṣas.

Table 17.8 Milk and dairy products (gorasa)[10]

Sl No.	Name	Qualities	Effect on doṣas	Other effects in the body
1	Cow's milk	Sweet, cold, soft,		Best among

		lubricant, viscous, smooth, slippery, heavy, slow and pleasant		rasāyanas: enhances ojas
2	Buffalo's milk	Heavier and colder than cow's milk; rich in fat		Good for sleeplessness and for those with powerful digestion
3	Camel's milk	Rough, hot, mildly saltish, light	Beneficial for vāta and kapha disorders	Useful for treating constipation, worms, abdominal disorders, piles and swelling
4	Mare's, ass's milk (one hoofed animals)	Hot, saltish, rough, light	Relieves vāta disorders	Builds strength, relieves vāta disorders of extremities
5	Goat's milk	Astringent, sweet, cold, light		Constipating; beneficial for internal bleeding, diarrhea, wasting, cough and fever
6	Sheep's milk	Hot	Perturbs pitta and kapha	Causes hiccups, shortness of breath.
7	Elephant's milk	Heavy builds strength.	-	Stabilises body
8	Human milk	Lubricant	-	Vitalising; builds strength and revives life energy; used as local application in nose and eye for

				treating bleeding and pain, respectively.
9	Curd	Lubricant, hot, amḷapāka	Relieves vāta: not to be used in disorders of rakta, pitta and kapha	Improves appetite: builds strength; indicative of good fortune; aphrodisiac; beneficial in nasal diseases, diarrhea, fevers, loss of appetite, difficult urination and emaciation. To be discarded in autumn, summer and spring
10	Mandaka (not fully matured curd)		Perturbs three doṣas; mature curd relieves vāta. Diluted curd relieves vāta and kapha disorders	Supernatant layer formed on milk promotes semen: diluted curd opens body channels
11	Buttermilk	-	-	Useful in the treatment of piles, abdominal disorders, urinary obstruction, swelling, poor appetite and excess disorders fat in the body and poisoning
12	Fresh butter	-	-	Improves appetite: induces

				constipation; improves abdominal disorders, piles, poor appetite, facial paralysis
13	Ghee (cow's)	Cold, sweet, madhura - vipāka	Pacifies vāta and pitta disorders	Best of all fats: thousands of actions: improves intelligence, semen, ojas, kapha and medas; useful in treating poisoning, insanity, fever, phthisis. Old cow's ghee beneficial for intoxication, seizures, phthisis, pain in the ear and head, pain in the female genitalia
14	Milk varieties and preparations E.g. colostrum, condensed milk etc	Heavy	Relieves vāta disorders	Saturating; promotes bulk; appropriate for those with excellent digestion, poor sleep: aphrodisiac

Table 17.9 Sugarcane products (ikṣu)[11]

Sl. No.	Names	Qualities	Effects on doṣas	Other effects in the body
1	Sugarcane juice	Cold, lubricant,	Perturbs kapha when chewed	Laxative, promotes

		sweet		bulk; causes acidity (with machine-pressed juice)
2	Jaggery	-	-	Builds blood, marrow, fat muscle: encourages worms.
3	Sugar (from jaggery) (from yāsa) (from honey)	Cold, sweet, lubricant Astringent, sweet, cold, mildly bitter Rough		All sugars good for thirst, internal bleeding and heartburn Beneficial for the injured; aphrodisiac Anti-emetic, anti-diarrheal and expectorant
4	Honey (from mākṣika) (from bhramara) (from kṣaudra) (from pauttika)	Oīl-like in colour Heaviest, white Brownish colour Ghee-like colour All are cold, rough, sweet heavy, astringent	Honey perturbs vāta; relieves rakta, pitta and kapha disorders	Mākṣika best among honeys. All honeys promote union and expectoration. Forbidden for those suffering from heat

Table 17.10 Dietary preparations (kṛtānna)[12]

Sl No	Names	Qualities	Effect on doṣas	Other effects in the body
1	Gruel (thin, pēyā)	Light		Improves appetite, bowel movement, relieves hunger and thirst, fever

				and bowel disorders, induces sweat
	Thick, vilēpikā	Light		Constipating, agreeable, filling
	Water from gruel maṇḍa	Light		Improves appetite, induces sweat, softens channels; useful in reducing therapy.
	Water from gruel of fried paddy			Relieves thirst, diarrhea; improves appetite; agreeable; beneficial in fainting and heartburn Beneficial for women, children and weak persons
2	Boiled rice	Well cooked is light. Not well cooked is heavy		Boiled rice prepared with meat, green/black gram, sesamum, oil, ghee, marrow, fruits etc builds strength and bulk
3	Boiled rice, spiced grains	Heavy, rough	Perturbs vāta	Induces purgation
4	Flour of roasted grains	Rough	Perturbs vāta	Improves digestion: produces bulky stools; promotes strength quickly in liquid form – that from śāli rice is especially beneficial

5	Barley preparations	-	-	Good for treating cold and cough, throat diseases and diabetes
6	Fried grain preparations	Heavy		Reducing; digests with difficulty. Rice flour heaviest
7	Food items cooked with additives like fruits, meat, fat, sesamum paste and honey	Heavy		Promotes bulk and strength; aphrodisiac
8	Food items prepared with jaggery, milk, honey and sugar	Very heavy		Promotes strength; aphrodisiac
9	Flattened rice	Heavy		Promotes health
10	Wheat preparations with/in fat Wheat preparations made with fried grains, parpaṭa etc	Heavy*, saturating Light*		Aphrodisiac
11	Preparations of pulses	Rough, cold	Perturbs vatā	To be taken in small quantity with spices, fat etc.
12	Rasāla†	Lubricant, tasty		Promotes bulk, strength; aphrodisiac
13	Curd with jaggery	Lubricant	Relieves vatā disorders	Saturating

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14	Syrups, e.g dates, grapes, jujube etc.	Heavy		Distending; Action may vary depending on ingredients and their quantities
15	Preparation of sago and ṣāḍava	pungent, sour, sweet, salty, light		Appetising, palatable
16	Cream-like preparation of āmalaka	Sweet, heavy, lubricant		Appetising, promotes bulk
17	Sūkta (a form of vinegar)		Perturbs raka, pitta and kapha	Properties and action depend on the source such as tubers, roots, fruits etc.
18	Śiṇḍākī (a fermented drink)	Light		Improves appetite

Table 17.11 Food additives (āhāra yogī)[13]

Sl. No	Names	Qualities	Effects on doṣas	Other effects in the body
1	Sesamum oil	Sweet, astringent, hot	Perturbs pitta and kapha	Best among vāta relieving agents. Constipating; reduces urine output: promotes strength, intellect; by processing with medicinal plants, counters all diseases

2	Castor oil	Sweet, heavy	Perturbs pitta and kapha	Useful in treating abdominal swelling, chronic fever and heart disease
3	Mustard oil	Pungent, hot	Disturbs rakta and pitta, diminishes kapha, vāta	Relieves itching and skin rash; reduces semen
4	Pṛiyāḷa oil	Sweet, heavy, hot	Perturbs kapha	Because of hotness, not advisable in vāta and pitta disorders
5	Linseed oil	Sweet, sour, kaṭu vipāka, uṣṇa vīrya	Relieves vāta disorders; perturbs rakta and pitta	
6	Kusumbha oil	Hot, heavy, kaṭu vipāka	Perturbs all doṣas	Causes heartburn
7	Marrow and animal fat	Sweet; hot or cold according to the habitat aphrodisiac of animals		Builds bulk and strength;
8	Dry ginger	Slightly lubricant, hot, madhura vipāka	Relieves vāta and kapha disorders	Improves appetite; aphrodisiac
9	Long pepper (green) (dry)	Sweet, heavy, lubricant Pungent, hot	Enhances kapha Relieves kapha and vāta	Aphrodisiac
10	Black pepper	Light, not very hot	Alleviates vāta and kapha	Improves appetite
11	Asafoetida (Hiṅgu)	Pungent, hot, light	Relieves vāta and kapha	Digestive; relieves

				spasm; binds bowels; appetising
12	Rock salt	Slightly sweet	Relieves disorders of all three doṣas	Best among salts; improves appetite, vision; aphrodisiac
13	Sauvarcalā salt	Hot, light, fragrant	-	Improves appetite: laxative
14	Biḍa salt	Sharp, hot, quickly absorbed		Appetiser, relieves colic; expels wind
15	Audbhida salt	Pungent, bitter, sharp	-	Irritant
16	Black salt	All the properties of sauvarcalā except fragrance		
17	Sāmudra salt	Mildly sweet		
18	Yāvaśūka (aikali obtained from barley husk)	Sharp, hot, rough	Relieves cough due to kapha disorder	Beneficial for treating heart disease, pallor, abdominal swelling, constipation, piles, throat complaints
19	Kāravi, kuñcikā, ajāji etc.		Relieves vāta, kapha disorders	Improve appetite, Remove foul smell

POST-PRANDIAL DRINKS[14]

What should one choose for a drink after a meal? The guiding principle for the choice between an alcoholic and non-alcoholic drink should be that the drink has properties opposed to the properties of the food consumed, but not opposed to the dhātus of the body. For vāta, an oily and hot drink is advisable, for pitta, sweet and cold, for kapha, rough and hot, and in wasting, meat soup should be preferred. For those weary from long travel on foot, too much talk, sexual excess, exposure to sun and wind, milk is the ideal drink. To the lean and emaciated, wine should be suggested. The obese, on the other hand, would benefit from honey water. Those with poor appetite, sleeplessness, anxiety and fear and others used to wine and meat should be given wine as a post-prandial drink. The drink, appropriately chosen, builds strength and bulk, supplies energy, gives a sense of fulfilment, blends and breaks down food into a soft, wet substance that lends itself to quick digestion and absorption. Water is inadvisable as a post-prandial drink for those with vāta disturbance such as hiccups, shortness of breath and cough, and others who overexert themselves while singing, speaking and reciting.

SOME DETERMINANTS OF QUALITIES[15]

Qualities - hardness/lightness in particular - are often attributed to food containing animal products. Heaviness and lightness of foods are of great importance for the weak, the ill and the delicate even though they are less relevant for someone who is extremely active and has an enormous appetite. There are several determinants of such qualities and the prominent determinants are the habitat of the animal, part of the body, constitution, additives, gender, size, cooking procedure and quantity. The animals born and moving in water and wet land consume heavy food; the food produced by them is also heavy. Those which are born and live in arid zones and eat light food, supply meat which is light. Among body parts, the shoulder is heavier than the flesh of the thighs, the chest and the head are heavier still. Testicles, skin, penis, pelvis, kidneys, liver and rectum are heavier than the flesh of the trunk. The meat of common quail and grey partridge is light whereas that of the pig and buffalo is heavy. In general, active animals provide light meat. The meat of male animals is heavier and, in a given class, large animals provide heavier meat than small ones.

Processing can influence qualities. It can turn heavy food into light and vice versa. To illustrate, heavy vrīhi turns light when fried and converted to lajjā while the flour of roasted grains becomes heavy when cooked and made into a bolus.

Quantity also plays a role. Heavy substances behave as if they are light when taken in small quantities while light articles become heavy when consumed in very large quantities. Obviously, this contrasting behaviour is linked to the role of digestive fire on which strength, health, lifespan and vital breath depend. One should look upon food as a regular offering to the digestive fire, giving it the same significance in terms of time, quantity and respect as when oblations are offered to the sacrificial fire. Indeed, offering auspicious oblations to the external fire, giving gifts to the deserving, meditating on the Brahman and cultivating the right perception about the wholesomeness and otherwise of food are the guarantees of good health, happiness and a lifespan of a hundred years. Vedic rituals for attaining heaven are no less dependent on food than working for a living.

18 The Fate of Food and Drink in the Body

The living kingdom is primed by nature to strive towards happiness, but the individual may respond to nature (showing proper or improper conduct) depending on his wisdom or ignorance.

Eaten, licked, swallowed or drunk - no matter how food and drinks are consumed, they are fuel to the digestive fire and the fires which characterise each constituent in the body. The fires of the constituents burn unceasingly like time and consume the constituents themselves even as they bring about the sequential transformation of each constituent to its successor constituent. As they are consumed, their replenishment and the restoration of equilibrium are made possible by food and drinks which build and energise body tissues. Each constituent carries not only its fire but also its own channels.

As food and drinks are burnt by digestive fire they give out two products which are the essence of food: chyle (āhārarasa) and waste matter (kitta). The chyle in turn, produces more substances which include rasadhātu, blood, muscle, fat, bone, marrow, semen and ojas, the five subtle substances of the sense organs called 'dhātu prasāda', and several parts of the body such as ligaments and lubricants of joints. The exact process of replenishment is not clearly understood. It may be that the entire stream of chyle joins and recharges rasadhātu initially and then moves on, in sequence, to act upon blood, muscle, fat, bone, marrow, semen and ojas. Alternatively, it is possible that only a branch from the main stream of chyle nourishes rasadhātu and a sub-branch supplies blood and so on until the terminal flow joins ojas. It is also possible that neither of these processes take place and the chyle may be replenishing the constituents simultaneously through different and random pathways. However, it is important to bear in mind that chyle is distinct from the rasadhātu of the body in so far as the former nourishes the latter. But chyle transforms itself as rasadhātu without the intervention of a fire

Waste matter or kitta also replenishes, but the targets are the products of excretion. These include sweat, urine, feces, vāta, pitta, kapha, earwax, eye dirt, nasal mucus, saliva, hair follicles, mucus discharge from the genitals, hair, beard, moustache and nails.

In the natural state the constituents are in equilibrium; this is maintained by the normal proportions of chyle and waste matter. When the essence of a constituent falls or rises, the corresponding supply of chyle increases or decreases to restore equilibrium. An identical mechanism operates where waste matter such as urine and feces are concerned. When the level is exceeded, treatment is needed to restore the balance. The to and fro movement between chyle and waste matter on the one hand and dhātus on the other takes place through ubiquitous channels which are distinctive for each dhātu.

Therefore, if the healthy body is a product of wholesome food it follows that ill health must result from unwholesome food.[1] This is not, however, an absolute statement because one comes across

illness among those who consume wholesome food and the absence of illness among many who consume unwholesome food. There are factors other than unwholesome food which cause ill health such as changing seasons, imprudent conduct or exposure to obnoxious sounds, sights, tastes and smells. Similarly, unwholesome food may not have a deleterious effect equally on individuals whose innate resistance to disease varies, and unwholesomeness itself may be modified by the unequal perturbation of doṣas , time, place and other circumstances. For example, persons who are obese or emaciated, who are feeble in mind, and whose muscles, blood and bones are not cohesive are less likely to resist ailments. It would be more accurate to say that the digestibility of the food, innate predisposition and the state of the body determine whether the disease is mild, severe, acute or chronic. Unwholesome food may not only perturb vāta, pitta and kapha unequally and produce varying ailments, it may act in concert with very hot weather and physical activity to perturb the doṣas which may migrate from their usual location in the gut to the extremities of the body thanks to the fast transport by vāta. They may promptly manifest themselves in the new location or remain dormant until excited again by changes in place or time because doṣas are never perturbed except at the wrong place and time. If the transporting vāta gets controlled, the excess doṣas ooze out or burn out, the body channels are cleared and the doṣas return to the gut.[2]

DHĀTUS AS TARGETS OF DOṢA PERTURBATION[3]

If the rasadhātu is the seat of perturbation of doṣas there are typical signs and symptoms. They include loss of appetite, distaste in the mouth, nausea, feeling of heaviness, drowsiness, fever and bodyache, pallor, 'seeing darkness', impotence, premature wrinkles, grey hair and obstruction in the channels. Doṣas disturb blood by causing a variety of skin disorders such as black moles, boils, ring worm, scaling of skin, white patches, rashes, urticaria and leprosy, bleeding conditions including internal bleeding and menorrhagia, suppuration in the mouth, spleen, abdominal cavity, penis and anus, blue discolouration of the body and jaundice. One detects doṣa disturbance in muscles by observing small and large tumours, sloughing of muscle, abscess, polyps, diabetic boil, glandular swellings in the neck and abscess above the tongue. If the doṣa disorders assail fat, there is obesity and evident signs of diabetes. In the bone, the corresponding signs are pain in the bones, bony tumour, extra teeth, cracked teeth and abnormalities in hair and nails; in the marrow, the manifestations of doṣa disturbance are pain in the joints, 'seeing darkness', fainting, giddiness and the appearance of deep skin disorders. When semen is the seat of doṣa disturbance, one would see signs and symptoms such as impotence, faulty erection and short-lived or deformed offspring and abortions. When affected, the senses too become dysfunctional or lose function altogether: ligaments, vessels and tendons become stiff, shortened and twisted, swollen and numb. If the perturbed doṣas find a location in waste matter such as urine and feces they may undergo retention or excessive elimination.

When disorders are caused by the accumulation of doṣas in the constituents, the method of treatment would vary. For example, disorders of rasadhātu call for reductive therapy whereas those of the muscle may need evacuative measures, application of alkali and surgery including cauterisation. The management of the dysfunction of different constituents should be planned according to established protocols.[4]

The living kingdom is primed by nature to strive towards happiness, but the individual may respond to nature (showing proper or improper conduct) depending on his wisdom or ignorance. The wise person's actions are marked by knowledge, memory, skill, self-control, a wholesome regimen,

chaste language, mental peace and patience. The ignorant, on the other hand, are the victims of rajas and tamas and prone to imprudent conduct which attracts them towards objects of momentary pleasure, improper use of senses and rash behaviour. The choice of food articles should be seen in the context of wholesome conduct and should not be guided by habit or ignorance. In spite of wholesome conduct if a disease occurs, the wise individual should not grieve.

19 *Physicians - Genuine and Fraudulent*

Salutation to the genuine physicians, rich in knowledge and skill, clean, masterly in action, and self-controlled.

Genuine physicians safeguard the vital breath and eradicate diseases; fraudulent ones do the exact opposite by aggravating illness and blowing out the breath of life. The vital breath has ten abodes in the body: the two temples, heart, urinary bladder, head, throat, blood, semen, ojas and the anorectal part of the gut.

How does one recognise a genuine physician? Quite simply, he stands out by his many virtues. These include good heritage, knowledge of scriptures, practical skill, hygiene, self-control, understanding of the body and its varied responses and the possession of medical equipment. He would have mastered subjects such as the structure, development and functions of the body, disease processes, and the cause, premonitory signs and the indications of curability, controllability and incurability of diseases. He would know how to expound the threefold principles of āyurveda clearly and briefly. In terms of therapeutics, he would know the exact number, sources and characteristics of drugs, medical procedures, code of conduct for healthy living, diseases and their manifestations, details of treatment, wholesome and unwholesome food and disorders located in the constituents and their management. Apart from the gifts of good memory, intelligence, learning and rational thought, a true physician would treat all living beings with as much goodwill and friendship as he would regard his parents, siblings and kin.[1]

Fraudulent physicians have the opposite traits in abundance. Disguised as physicians, they move from place to place in search of victims. They flock around the ill, proclaim their superior abilities and decry the services of the physicians in attendance, endear themselves to the patient's friends by flattery and the disclaimer of large fees, and pretend to be skillful while taking care to cover their ignorance. When the illness turns worse, they would put the blame on the patient and his lack of self-control, poor arrangements, and inadequate nursing. When the end of the patient is near, they would move elsewhere quickly. They are prone to blowing their trumpet and despising the steadfastness of courageous physicians. They dread the assembly of scholars even as travellers keep away from a forest on fire. If the fragment of a medical adage is known they can be counted on to quote it in place and out of place; they seldom ask or entertain questions and indeed, fear searching questions like death; nor does anyone know their teachers, pupils, classmates or disputants. They are the envoys of death who prowl in search of victims, whom the wise should avoid.[2] Salutations to the genuine physicians - rich in knowledge and skill, clean, masterly in action, and self-controlled!

References

20 *Rasas, Doṣas and a Healthful Diet*

An established principle is that three specific rasas perturb a doṣa while three opposing rasas assuage it.

A physician may know the cause, premonitory signs, types and other aspects of diseases but if he does not understand the specific features of doṣas and how they interact with rasas and dravyas (substances which include food and drugs), he is not capable of arresting the course of disease. In particular, rasas which are inherent in substances are important because they perturb doṣas in case of misuse. The interaction between rasa and doṣas plays a crucial role in the maintenance of health and control of diseases.

RASA-DOṢA INTERACTION

An established principle is that three specific rasas perturb one doṣa while three opposing rasas assuage it. The scheme operates as shown in Table 20.1.[1]

Table 20.1

Doṣa	Perturbing rasas	Assuaging rasas
Vāta	Pungent, bitter, astringent	Sweet, sour, salty
Pitta	Pungent, sour, salty	Sweet, bitter, astringent
Kapha	Sweet, sour, salty	Pungent, bitter, astringent

Whether a particular rasa perturbs or assuages a doṣa is determined by its properties and whether, and to what extent, they are similar or dissimilar to the properties of the given doṣa. This is in conformity with the basic principle in relation to sāmānya and viśeṣa which states that substances with similar properties will lead to increase whereas those with dissimilar properties will cause decrease. In practice, however, the permutations and combinations are countless because substances have many rasas and diseases have more than one perturbed doṣa. It may not therefore be possible to prescribe treatment on a one-to-one basis of a perturbed doṣa being counteracted by an isolated rasa

with opposing properties. Treatment is designed on the collective basis of dravyas which contain several rasas and diseases which imply more than one disturbed doṣa.2 Table 20.[2] lists some common substances and highlights the above principle.[3]

Table 20.2

Substance	Comments
Oil	Lubricant, hot, heavy; counteracts vāta which is rough, cold and light. Regular use necessary for effect
Ghee	Sweet, cold, gentle: overcomes pitta which is non-sweet, hot and sharp
Honey	Rough, sharp and astringent; subdues kapha which is lubricant, gentle and sweet
Long pepper (pippalī)	Pungent but becomes sweet in vipāka, heavy, mildly lubricant, hot, wet. On constant use, perturbs kapha due to heaviness and moisture, and pitta due to the quality of heat. Does not settle vāta because it is hot and lacks enough lubricity
Alkali (kṣāra)	Hot, sharp, light; initially wets, but later dries. Helps promote digestion and heals local scars. Excessive use causes blindness, baldness, grey hair, impotence, cardiac disease. Toxicity prevalent in China and east India
Salt	Hot, sharp; not too heavy or lubricant. Enhances appetite and eases bowel movement, excessive use leads to morbidity, weakness. In areas like Sindhu and Saurāṣṭra where use is excessive, people suffer from severe weakness, deficiency in muscles and blood, and pain. Note also the stunted growth of plants in salty soil

An individual gets accustomed to certain types of diet even when the diet may contain excessive quantities of substances such as shown in Table 20.2. The process of getting accustomed is termed 'sātmya' or 'upaśaya' which may apply to each of the six rasas or a combination of the six rasas. Sātmya with a combination of six rasas is superior to a similar relationship with less than six rasas. Even so, an individual should insist that the food is wholesome in nature, method of preparation etc., until the point of its consumption. These downstream aspects of food and drugs are indicated in Table 20.3.

Table 20.3 Downstream aspects of substances[4] (food and drugs)

Sl. No	Characteristics	Description and examples
1	Nature (prakṛti or svabhāva)	Properties inherent in substances. Eg. pork is heavy, deer meat is light
2	Preparation (kāraṇa)	Processing of a substance with water, heat, stirring, storage in containers etc
3	Combination (samyōga)	Compounding two or more substances when the compound shows properties not seen in the individual substances. E.g. honey and ghee
4	Quantity (rāśi)	The total quantity of food and relative quantities of different components are equally important
5	Place (dēśa)	Refers to the place where the substance normally grows/ occurs
6	Time (kāla)	Refers to seasonal changes as well as the evolutionary stages of the disease
7	Dietetic rules (upayoga samsthā)	Varies for different items (discussed later)
8	Consumer (upayōktā)	Getting accustomed to a particular diet (okasātmya) depends on individual constitution and idiosyncrasies

Dietetic rules which figure in Table 20.3 need elaboration in view of their day-to-day relevance.

DIETETIC RULES

1. Food should be warm because it tastes better when warm, stimulates digestion and is swiftly digested, eases the passage of flatus and curtails the flow of mucus.
2. Food should be unctuous since it tastes better when unctuous, stimulates dormant digestive fire and is digested soon, smoothens the passage of flatus, strengthens the body, firms up sense organs and clears the complexion.
3. The quantity of food should be adequate, neither too much nor too little to perturb the doṣas .
4. One should eat only when the previous meal has been digested; premature eating is certain to disturb all the doṣas . When food is taken after the previous meal has been digested, doṣas remain in their normal locations, digestive fire is kindled, the entrance of body channels remain open, eructation is absent, the heart feels normal and flatus passes easily.

5. One should avoid taking food where the components have antagonistic properties.
6. One should eat in an agreeable place and with agreeable accompaniments and utensils.
7. One should not eat very fast lest one should aspirate and fail to notice the shortcomings in the food.
8. One should not eat very slowly because one tends to eat too much, food becomes cold and unsatisfying and digestion is impaired.
9. One should not talk and laugh while eating. The mind should be focussed on food while eating and not on extraneous things.
10. One should always check whether a particular diet or food item is suitable or agreeable to oneself: only if it passes this test should it be consumed.

The one chosen as a personal physician should know all about tastes, substances (drugs and diet), doṣas and diseases besides the role of place, time and the body.

21 *Epidemics; Reflections on Lifespan*

If lifespan is predetermined, why should one steer clear of fierce beasts or fearful winds?

People differ vastly in their constitution, food habits, strength, mentality, age and adaptability, yet an epidemic heaps devastation on all no matter how different they are from each other. The answer to this riddle is that individual differences have no impact on air, water, land and season which have the power to wipe out populations. Unseasonal and howling winds, laden with moisture or terribly hot, may carry vicious odours, dust and smoke; water may turn slimy and acquire repellent colour, smell or taste besides being avoided by birds and animals. The land becomes unwelcome when it turns very humid and loses its normal healthy colour, smell, touch and taste. Woes pile up to further defile such land including snakes, violent beasts, mosquitoes and flies, rats, jackals, owls and vultures, luxuriant growth of weeds and creepers, failed crops, shrieking birds, moaning dogs and other animals in suffering. The rivers go into spate, thunder rents the sky and quakes split the earth. The lustre of the sun, moon and stars is hidden by clouds of varying hues. The community, as a whole, loses its mooring in virtue and good conduct, and ill fortune and wailing prevail everywhere. Even the weather behaves unpredictably and there is either too much or too little sun and rain. When put out of joint, all the four manifestations of nature may therefore open the door to epidemics.[1]

Although they are severe, not everybody dies during an epidemic. Those who have undergone special treatment (mainly the five procedures of evacuative therapy) are spared. These are followed by rasāyana treatment and the administration of plant preparations which should have been made ready with the first climatic and environmental warning of an epidemic.[2]During the epidemic, those who are not fatally ill should resolutely stick to a virtuous code of living.[3]

What causes the destabilisation of air, water, land and time, which brings on epidemics? The root cause is unrighteousness or sin; it may also be unjust actions of a previous life: both can be traced back to imprudent conduct. Consider rulers who preside over a country, city or community but lack probity. They can be counted on to deal unjustly with the officers, traders and people until righteousness disappears altogether and even the gods take leave of the country. Unrighteousness promptly raises its head and manifests as seasonal anomalies, too little or too much rain, abnormal winds, drought and the disappearance of life-saving medicinal plants. Unclean living and eating follows with the inevitable onset of epidemics. Unrighteousness also causes the ruin of communities by war and violence, which are triggered by greed, anger and conceit: it also makes the subjects vulnerable to attacks by demoniac agents and deadly creatures. Some believe that diseases caused by a curse is in reality a consequence of unrighteousness. It is after all unrighteous or sinful conduct that invites a curse from sages, preceptors and elders.[4] Human destiny from its dawn tells its own story.

In the kṛta yuga, when people led perfect lives, lifespan was limitless. The earth had responded by producing plentiful crops rich in taste, potency and other desirable properties. Sustained over long periods, the abundance of these very qualities made people - particularly the rich - obese, languid, ungenerous and greedy toward the end of kṛta yuga. In tretā yuga, hatred, falsehood, anger, violence, fear, grief and other emotions appeared in sequence. One could say that with each successive age a quarter of the store of virtues departed with a consequent drop in the quality of human life as well as the qualities of crops. The inferior food further undermined the power to resist the perturbation of doṣas and the onset of diseases and epidemics. Naturally life span decreased, which has been estimated at one year after completing a century for every succeeding yuga.

LIFESPAN

Is the lifespan of individuals predetermined? To answer this question, one should note that the lifespan of all living beings is a product of the interaction of two forces - the effect of past deeds (daiva) and one's present actions. Both these forces may vary in strength, which makes the interaction mild, medium or intense. A strong force of past deeds may overpower the force of present actions; conversely a weak influence of past deeds may be nullified by present actions. Struck by this interplay, some claim that lifespan is predetermined; however, this need not be true under all circumstances.[5] When corrective action overcomes the adverse effect of past deeds, the lifespan is long, happy and stable; if not, life would be short, unhappy and unstable. When corrective actions and the effect of past acts are matched, the life span would be neither too long nor too short.

If one's lifespan were predetermined, where is the need or justification for mantras, oblations, auspicious rituals, propitiatory functions and worship? Why should one steer clear of fierce beasts or fearful winds? Why indeed should one stay away from dangerous waterfalls, mountains, whirlpools, raging fires, venomous snakes or evil and unstable persons? Why should one bother about inappropriate conduct or the king's displeasure? How effective are the rasāyana prescriptions of sages? If the view on predestination of life span is carried further, any medical treatment - even by Indra or Aśvins - could be regarded as useless.

It is obvious that there are variations in the life span of thousands of persons who are fighting in the same war, or those who take or fail to take corrective treatment as soon as a disease strikes or when poison is ingested. Once we admit that present actions have an impact on lifespan, it is necessary that one observes a proper regimen in life including the adoption of food and activities which are opposed to the properties of the place of residence, time and self, the optimum use of sense organs, non-suppression of natural urges, resistance to rajasic and tamasic pulls, and avoidance of rash acts.[6]

Given that lifespan need not be predestined, what is meant by timely and untiḿely death? This brings to mind a carriage and the axle on which its wheels rotate. In course of time the axle wears out incrementally and the carriage also falls apart by natural attrition. Likewise the human body, healthy and well-cared for, completes its span when timely death occurs. Suppose the axle of the carriage breaks down due to overload, poor road conditions, bad driving, non-lubrication or the bolt breaking off, the carriage then breaks down prematurely. Similarly some persons fail to complete their lifespan due to over-exertion, the diet being incompatible with digestive fire, abnormal body postures, excessive sexual activity, suppression of natural urges, poor resistance to temptations, poisoning, injuries including those by fire and wind and attacks by beasts and organisms. Death caused by incompetent treatment of diseases is equally untimely.[7]

What then is the principle of correct treatment? Simply stated, this is to administer measures that are opposed to the properties of the cause and manifestations of diseases. But one must apply reason in every situation. For example, fever is hot, but hot water is often given to the patient, which appears to contravene the basic principle. However reason tells us that fever originates from the stomach, and the disorders which have their source in the stomach respond to measures that promote digestion, such as reduction including fasting, or vomiting. In the present instance, hot water promotes digestion and hence its relevance. However, in fevers associated with fainting and delirium hot water may be inappropriate.

The principle therefore holds that hot is treated with cold measures, and saturation with desaturation. Incidentally, desaturation has three methods - pure reduction, reduction plus digestion, and the elimination of doṣas . Purely reducing therapy is advisable for mildly disturbed doṣas when agni and vāta are only slightly disturbed. Reduction plus digestion is appropriate when the disturbance of doṣas has medium strength. When the disturbance is severe, elimination such as by emesis is essential. All these therapeutic measures, particularly elimination, should be withheld from individuals who have not repudiated charges against them, who have no attendants and are too poor to arrange for treatment, who look upon themselves as physicians, who have traits of violence and wickedness, when muscles and blood are depleted, and when fatal signs are present.

To return to the earlier theme of epidemics, the hilly regions which have little water, not too many trees, but strong winds and hot sun are associated with the fewest number of diseases. The terrain abounding in water and trees, mild wind and where the sun shines through a cloud of moisture is certain to perturb doṣas often; the land which has some of the features of both these has intermediate potential for causing diseases.

22 *Norms for the Quantity of Meals*

The stomach dictates the norms for the quantity of meals.

All food - eaten, chewed, licked, swallowed or drunk - gets digested in the body in an organ called the stomach (āmāśaya) which is situated between the chest and the navel. Food gets digested in the stomach before reaching all the other parts through channels (dhamanī).[1] The stomach dictates the norms for the quantity of meals. A sound basis for meals is to fill a third of the stomach with solid food, a third with liquids and leave a third free for the interplay of the three doṣas. However, the appropriate quantities by themselves do not supply the full benefits of food; the eight downstream factors such as the nature and preparation of food discussed earlier are also important.

The quantity of food that one consumes may be classified as appropriate and inappropriate. Apart from the 'one-third rule' on eating, the appropriateness of a meal is shown by certain indications. These include no feeling of obstruction in the heart region, no pain on the sides of the chest and no sense of heaviness in the belly. Furthermore, the senses are fulfilled, hunger and thirst are assuaged, standing, sitting, lying down, walking, breathing, talking and laughing are effortless, food is digested easily by the evening or morning, and strength, growth and colour are improved.

When the quantity of food consumed is not enough, the individual's strength, colour and development suffer, vāta moves upward, longevity, virility and resistance to illness are reduced, body, mind, intellect and sense organs are weakened, and even the eighty disorders of vāta may be provoked. On the other hand, too much food perturbs all doṣas. Where solid food is taken to the full followed by a similar quantity of liquids, vāta, pitta and kapha in the stomach are compressed and thrown out of balance jointly. The disturbed doṣas thereupon move into the compartment of the stomach where undigested food remains and produces distension of the abdomen. This may lead to elimination of the food by vomiting or diarrhea. The dominance of vāta, pitta and kapha in causing symptoms of overeating is specific to each doṣa. However it is not overeating alone which causes incomplete digestion; intake of heavy, rough, cold, dry, loathsome, flatulence-promoting and unclean food, or items with opposing qualities, and eating while under the effect of powerful emotions can also account for similar disorders of the stomach.[2]

The gut may show abnormal function either due to overactivity or underactivity. They are termed viṣūcikā and alasaka. In viṣūcikā, the gut contents are expelled through vomiting and purgation; this is similar to what happens in individuals whose doṣas in the stomach are perturbed by overeating. Alasaka occurs when a weak person with inadequate digestion and excess kapha consumes food or drinks. It may also occur when food and drinks are consumed by those who resist natural urges, or when solid, rough, cold and dry food is eaten. Consequently, vāta is perturbed and dries up kapha

which blocks the natural passage; as a result the accumulated waste matter fails to be expelled. Abdominal distension and other symptoms of a stomach disorder follow except vomiting and diarrhea. However, if the vitiated doṣas take an oblique course and their passage is blocked due to the stomach disorder, the entire body may become stiff (daṇḍālasaka); this is an incurable condition. Equally incurable is āmaviṣa which occurs when a person regularly eats food items with opposing qualities or eats before the previous meal is digested; āmavisa shows signs resembling toxicity.[3]

When the stomach disorder is of the alasaka type and is associated with sluggishness, emesis should be induced by administering hot salty water. Other useful measures would be fasting, fomentation arid the application of a suppository. When the disorder is viṣūcikā, reducing therapy is given to begin with, and management carried out subsequently as if the patient is undergoing evacuative therapy and purgation. If the subject feels heaviness in the belly and loss of appetite in spite of the digestion of the previous meal, medications to stimulate digestive fire are in order. A patient should refrain from eating during indigestion because the digestive fire, already weakened, is incapable of digesting any additional food or drug. Under such conditions the weakening of the digestive fire is followed by the weakening of the fire in the dhātus of the body and collapse of the patient.

The mainstay of treating disorders of the stomach is reduction or desaturation by various methods including fasting. If the disorder persists, therapy opposed to the symptoms should be tried since desaturation would have already been tried against causative agents. When the patient's condition and his digestion improve, supportive therapy should be instituted including massage, enemas and a lubricant regimen. These measures should take into account the state of the disturbed doṣas, drug, place, time and other factors.[4]

[23] *Body - a Network of Channels*

Vessels as dhamanīs., pulsate; as srotas or channels, remain conduits; as śiras, transport substances swiftly.

FLOW THROUGH BODY CHANNELS

The body is the abode of busy channels which are as many and as varied as the events taking place within it. Bodily changes can neither begin nor end except through the channels which transport dhātus in situ and in transformation. Just because they are ubiquitous does not imply that a massive assemblage of channels constitutes a person. While scholars differ on whether the channels in the body can or cannot be counted, there is hardly any doubt that the location of the channels, what they transport and what their cargo nourishes are different from the channels themselves. The channels may be visible or invisible and have many expressive synonymous such as śira, dhamanī, rasāyanī, rasavāhinī, nāḍi, pathin, mārga, śarīracchidra, śamvṛtāsamvṛta, sthāna, āśaya and niketa. Based purely on their origin and what they transport, body channels number thirteen and can be roughly, but not exhaustively, classified. The channels are those that move vital breath, water, food, chyle or the essence of digested food (rasa), blood, muscle, fat, bone, marrow, semen, urine, feces and sweat. They are tubular, large or small, and share the colour of the respective dhātu. The three doṣas, vāta, pitta, and kapha, however, transit all over the body and have the right of passage through all channels. For the mind which transcends sense organs the conscious body in its entirety is the seat and conduit. As long as the channels

remain open and transport substances continuously, the body remains free from disorders. Derangements and signs appear when the channels are blocked or are impaired involuntarily. The channels may also be occluded by the suppression of natural urges.

The channels which carry the vital breath trace their origin to the heart and the great channel (mahāsrota). They are deranged by wasting diseases, suppression of urges, excessive physical activity and hunger. Any reduction or interruption of flow through the channels shows up as the breath being too long or too short, laboured, rapid, noisy or painful.

The water channels have their origin in the palate and lungs. They are impaired by heat, stomach

ailment, fear and consumption of dry food. When their function is impaired, severe thirst follows and the tongue, palate, lips, throat and lungs become dry.

The food channels originate in the stomach and the left half of the body. Their dysfunction is caused by eating too much or by disagreeable food, and leads to the loss of appetite, indigestion and vomiting.

The channels of rasa originate from the heart and its ten great vessels, and suffer damage from heavy, cold or fatty food, overeating and excessive intellectual effort. Those of blood arise from the liver and spleen, and are disturbed by very hot food and drinks, fatty food and overexposure to sun, those of muscles arise from joints and skin, and are deranged by excessive or heavy food and sleep during the day. Those of fat owe their source to the kidney and the fat carriers of the body, and are upset by lack of physical activity, sleep during day time, too much fatty food and liquor. Those of bone arise from fat, the pelvis and hips, and are perturbed by too much exercise, violent movements and vāta-promoting agents. Those of marrow originate in the joints, and are blocked by crush injuries, pressure and unwholesome food. Those of semen arise from the testicles and penis, and are disturbed by sexual intercourse at the inappropriate time and through the non-vaginal route, excessive intercourse, suppression of ejaculation and surgical procedures.

The urinary channels have their source in the urinary bladder and groin. They are disturbed by the misuse of water, food and suppression of the urge for micturition and sexual intercourse. When they function poorly, or there is too much, too little or too thick urine, frequency of micturition and pain during urination are observed. Fecal channels originate from the lower intestines and rectum and, on becoming deranged, show signs such as very hard or very loose feces, or too little or too voluminous stools, and painful and noisy defecation. If the flow through the channels is blocked by the suppression of the urge to relieve oneself, colicky pain, headache, flatulence, fecal impaction and muscle cramps may occur.

The sweat channels originate in the hair follicles and subcutaneous fat. They are disturbed by overexertion, very hot weather and the inappropriate use of hot and cold articles. On their impairment, non-sweating or too much sweating, roughness or burning sensation on the skin or gooseflesh may occur.

In summary, inappropriate food and conduct which are in accord with the doṣas but conflict with the dhātus are the cause of disorder in the channels.[1] The disorder may manifest in excessive flow, blockage, formation of nodular collections or reverse flow in the channels.[2]

THE HEART AND THE TEN GREAT VESSELS - A SPECIAL SYSTEM

A reference has been made to the channels of vital breath reaching the heart and its ten great vessels. It was noted again that the channels of rasadhātu originate from the heart and its ten great vessels. What then is the role of the heart and its ten great vessels?[3]

The great importance of the heart is proclaimed by its synonyms 'mahat' and 'artha'. It is the ultimate abode of the six components of the body, intellect, sense organs and their objects, mind and its object of thought, qualities and self. Experts regard the heart as the support of all these entities in the same manner as a girder holds together the rafters of a house. No wonder a person faints or dies when the heart is injured or becomes the cause of severe pain. Awareness of sensations - a sign of life - is

based on the heart. It is also the abode of ojas and consciousness.

From the heart as the source, ten great vessels carrying ojas radiate all over the body. Life is impossible without ojas which enriches tissues and supports life. Ojas is the original stuff of the embryo and also its nourishing substance which enters the embryonic heart. If ojas is harmed at this stage, embryonic life is destroyed because ojas in the heart is the sustainer of life. Heart as the seat of ojas is also the abode of the fluid essence and vital breath of the body. Itself a product of embryonic materials, the heart becomes the source often great vessels much like a fruit giving rise to a tree with ten ramifications. These vessels perform many functions: as dhamanīs they pulsate, as srotas or channels they act as conduits, and as śiras, they transport substances swiftly.

To protect the heart, ojas and the ten great vessels, special care should be taken to rid oneself of grief and worries. It is also important to adopt a wholesome lifestyle which favours the heart and great vessels and cleanses the body channels. This would go hand-in-hand with serenity of the mind and knowledge.

24 *Disease - Manifold Expressions of Deranged Doṣas*

If doṣas are set right, disorders will take care of themselves.

All diseases cause suffering. There are many ways of classifying them depending on the standpoint. From the point of view of response to treatment, intensity, location, causation and origin, they could be curable or incurable, mild or severe, psychic or somatic, endogenous or exogenous, and originating from the stomach or from the intestine, respectively. In practical terms, the variations and combinations are so many that diseases are countless - there is even a classification which groups diseases as numerable and innumerable! However, a classification cannot be rigid because the disease may be placed in more than one category. A word may have different meanings and different words may have the same meaning. For example, roga indicates doṣa as well as disease: doṣa has synonyms such as roga, antaka and vikāra; vyādhi also has the same synonyms. Thus 'roga' is doṣa as well as vyādhi. For all these reasons, one should choose to concentrate on doṣas which are limited in number, and look upon the numerous disorders as no more than the varied expression of deranged doṣas. If doṣas are set right, the disorders will take care of themselves. Vāta, pitta and kapha are bodily doṣas which, when perturbed, give rise to fever, swelling, phthisis, leprosy and other somatic ailments. Rajas and tamas are doṣas of the mind; when perturbed, they trigger a variety of emotions and psychological disorders including anger, greed, conceit, narcosis and anxiety.[1] An doṣas, regardless of type, are perturbed by the inappropriate contact of sense organs with their objects, imprudent conduct and the evolutionary process of things and events including climate change and ageing. Doṣas generally act in combination. Rajas and tamas work together because tamas is immobile and needs the impulse of rajas to move. Again, bodily doṣas -vāta, pitta, kapha - combine to produce two-in-one (samsarga) or three-in-one (sannipāta) forms.

When classifying illnesses, one should make a clear distinction between primary and secondary varieties. A primary illness has its own cause, signs and symptoms and specific therapy: a secondary disorder has none of these independent features. However, primary and secondary illnesses often blend in day-to-day experience and complicate the classification of diseases.[2]

The bodily doṣas are bound to the digestive fire which characterises the dhātus of the body. The aggregate of the fires of dhātus or bodily fire may have high or low degrees: it may also be in or out of balance. An individual with a high degree of body fire (digestive and dhātu fires) thrives in spite of inappropriate conduct while another with a low degree does not. Again, when the body fire is in balance, it cannot be upset except by an inappropriate regimen; when it is in imbalance, the body fire produces the opposite effect. These four types of body fire are associated with different body constitutions which correlate with the three doṣas. In an individual in whom the three doṣas are balanced the body fire is also balanced; when the individual has a vātala constitution and the body fire is overcome by vāta, the body fire goes out of balance. Similarly, in a pittala constitution, the body fire is overtaken by pitta and in turn becomes intense and moves into high degree. In those with śleṣmala constitution, the body fire becomes mild as a result of the body fire succumbing to kapha.[3]

The agni-doṣa link has a bearing on therapeutics. Individuals with balanced doṣas and body fire are treated with measures which are wholesome and balanced; when one or the other doṣa is perturbed, contrary measures are employed till the body fire regains balance. At this point a wholesome and balanced regimen should be enforced.

The equilibrium of doṣas is difficult to maintain because of the likelihood of individuals eating unwholesome food. Could this be the reason for individuals to have constitutions which may be vātala, pittala or śleṣmala? This is not the case because a physician always equates health with the equilibrium of the three doṣas and seeks to restore it by treatment. From his point of view, individuals who enjoy health are able to do so because of the balance of the doṣas. If the doṣas are perturbed, they cause doṣa-induced diseases. It is incorrect to characterise such conditions as vātala, pittala and śleṣmala constitutions. [4]

The view adopted here posits that body constitutions that are dominated by vāta, pitta and kapha are not healthy. The importance of doṣa-dominated constitutions lies in the fact that they are especially prone to be perturbed by vāta, pitta and kapha, and the diseases, when they occur, tend to be severe. For example, if a vātala individual takes vāta-disturbing substances, his vāta is perturbed immediately but not the other two doṣas. The disturbed vāta may cause many disorders which may even be fatal. This should be managed by full-scale measures to assuage vāta.[5] Similarly pitta is disturbed easily in a pittala individual who uses pitta-vitiating agents. The individual would consequently suffer many pitta-dominated ailments which could cost him strength, complexion, happiness and even life. Here again, an elaborate regimen needs to be put in place to pacify the disturbed pitta.[6] The śleṣmala individual behaves similarly when his kapha is easily disturbed by kapha-aggravating substances. He suffers as a result from kaphaja disorders which could be serious and fatal. His condition calls for competent and expert management.[7]

25 *Infestation by Worms (Kṛmi)*

There are twenty varieties of worms which cause disease and one naturally occurring type which is innocuous. Based on habitat, the twenty varieties are classified under four groups which grow in feces, mucus, blood and non-fecal excreta.[1] Their main features are indicated in Table 25.1.

The three principles of treating worm infestation consist of the removal of worms, eradication of the source of origin/breeding ground and prophylaxis against causative factors. The removal may be manual, as for organisms like lice. In some locations it may be done by evacuative measures, including head evacuation, emesis, purgation and non-lubricant enema. The source is eradicated by the administration of pungent, bitter, alkaline and astringent medications and other agents opposed to kapha. Prophylaxis is accomplished by personal conduct which scrupulously avoids contact with the causative factors.

EVACUATIVE MEASURES FOR INTESTINAL WORMS AND HEAD WORMS

The infestation by intestinal worms is so common that a discussion of its management is appropriate. The patient should undergo the procedures for lubrication and fomentation for six or seven nights as the first step. Then, a day prior to evacuative therapy, he should eat a meal in the morning and evening, consisting of milk, jaggery and flour preparation, which would induce the worms to move into the gut. The next day when the food would have been digested, he should be given a non-lubricant enema, emesis and purgation.

The non-lubricant enema should be enriched with carefully prepared medicinal formulations and repeated for three to seven days. After the last enema, specific preparations for emesis and purgation should be given and the patient reassured all along.[2] Once the evacuative procedures are over, he should take a bath in medicated water, rest in a quiet room and stick to a graduated programme of diet beginning with a gruel of yavāgu prepared with the pippalī group of plants. When the diet progresses to the stage of paste, a lubricant enema would be in order twice or thrice on alternate days.[3]

Table 25.1

Category	Cause	Features				
		Habitat	Appearance	Colour	Examples	Symptoms
Purīṣaja (Feces)	Rice, milk, jaggery; stale, contaminated and unwholesome food	Intestines	Cylindrical, thread like, long	White/black /blue/green/ yellow	Kakēruka, makēruka, lēlihā etc	Diarrhea, emaciation, pain and itching in anus; exit through anus
Ślesmaja (Mucus)	Same as above	Stomach	Broad, tape like; could be round like earth worms; or like thread	White	Āntrāda, udarāda, hṛdayācara etc.	Nausea and vomiting indigestion, fever, salivation, constipation, loss of weight
Śoṇija (Blood)	Similar to leprosy	Blood vessels	Minute; round; no feet, some are invisible	Coppery	Keśāda, lomāda, audumbara etc	Falling hairs, beard, nails; itching and pain; in later stages, destroy skin, muscles, blood vessels etc
Malaja (external excreta other than feces)	Poor hygiene	Hair root, clothes	Small, sesame like, many legs	Black and white	Lice, ants (yūka, pipīlikā)	Itching, urticaria

If worms are observed to be the source of head ailments, lubrication and fomentation should be applied locally and head evacuation carried out nasally with the seeds of apāmārga.

ERADICATIVE MEASURES

To eradicate the source or milieu which fosters the growth of worms, an elaborate treatment consisting of medicinal preparations should be administered in a phased manner. The preparations are extracts of plants and fruits and animal products including urine which are refined and re-refined according to a detailed protocol. The preparations are administered orally, or in the form of lubricant enemas. An example follows:[4]

An extract of the entire plant - mūlakaparṇī - is prepared. It is mixed with the powder of red śāli rice to make cakes which are baked on smokeless charcoal. When cooked, the cakes are given to the patient with vidaṅga, oil and salt. Subsequently he should take buttermilk mixed with salt and a decoction of pippalī, pippalīmūla, cavya, citraka and śuṇṭhī.

It is found that worms growing in mucus and feces have much in common and the same medication could be given in lower doses for fecal infestation through enemas. When the habitat is mucus, the evacuation could be performed through the head or through emesis or purgation depending on the site of infestation.[5]

26 *Training of a Physician -Theory, Practice and Ethics*

An aphorism is to the physician what a seed is to the farmer.

One who would be a physician should begin by taking a critical look at the medical text which initially drew his attention. A number of texts exist, and the choice of one for study should be guided solely by its merits. These should include its reputation and lineage, its preference by experts and scholars, the wealth of ideas, intelligibility to average persons, absence of repetitions, orderly introduction, discussion and conclusion, sound base of knowledge, lucid and felicitous expression which abjures difficult words and the clear presentation of traditional ideas, topics and their summary along with examples for easy understanding. Having chosen a text, the student should identify a teacher who knows the subject well, understands clinical procedures and possesses practical experience, is dexterous, well equipped, friendly, clean, in full possession of senses, familiar with human nature, free from conceit, anger and envy, forgiving and fatherly to disciples, and competent to impart knowledge. The student should treat the chosen teacher with respect reserved for sacrificial fire, gods, king and parents. His endeavour should be to master the treatise under the preceptor's guidance and to consolidate knowledge, enhance the understanding of ideas and improve the power of exposition. His training as a physician would involve three processes - study, teaching and discussion.[1]

Study is not for those except in good health. The disciple should wake up at dawn or earlier and, after ablutions, salute the gods, saints, cow, brahmanas, preceptors, elders and the teacher. He should then seat himself in a smooth, comfortable and clean place and repeat the aphorisms learnt earlier. While repeating, he should ponder deeply and strive to understand their meaning. This exercise should continue throughout the day, afternoon and night without wasting time to remove the gaps in one's understanding and reveal those of others.

The teacher should judge the eligibility of a student on the basis of his bodily and mental qualities. His eyes should look straight, mouth and nose appear sharp, tongue red, thin and clear with no deformity of lips or teeth, and speech should be free from nasal intonation. His sense organs should be intact and he himself incapable of reproachful acts.

His conduct should be noble and demeanour calm and restrained. He should be intelligent, broadminded, truthful, humble, pure, sincere, compassionate, skillful, quick on the uptake of ideas, devoted to theory and practice and free from greed, anger and addictions. He should be loyal to the teacher and ready to follow his directions. When a candidate who fulfils the criteria presents himself,

the teacher should choose an auspicious moment (according to astral calculations) for his initiation. The candidate should undergo tonsure, observe fast, take a bath and wear ochre cloth and a sacred thread before approaching the teacher with the prescribed articles for the ceremony including firewood, fire, ghee, water jars, garland, lamps, vessel of gold or silver, precious stones, silk cloth, sacred grass and others.[2] A platform measuring four cubits and sloping to the east or north should then be made in a flat and clean place, plastered with cowdung and bounded by sacrificial sticks around its periphery. Sacred grass should be laid on the platform and all the other articles placed appropriately. A fire should be lit with clean firewood of palāśa, ingudi, udumbara and madhūka. Then, facing eastwards, the teacher should offer oblations to the fire while chanting mantras addressed to Brahma, Agni, Dhanwantari, Prajāpati, Aśvins, Indra, sages and the saint composers of medical aphorisms. Each chant should be followed by the repetition of 'swāha' thrice. The disciple should follow the teacher at each step and circumambulate the fire while the brāhmaṇas recite swastīmantra. He should then salute all the physicians who would be present in the assembly. At this stage of the ceremony, the teacher should command the pupil, with the fire and the learned assembly for witnesses, as follows.[3]

'You should remain a celibate, speak truth, adhere to nonviolence, abjure envy and use substances that enhance intellectual power. You should sport a beard and moustache, avoid meat and, at all times, obey my commands except under threat of the king's ire, death, unrighteous conduct (adharma) and calamities. You should look upon me as your master, follow the course that pleases me and live with me as my son, helper and servant. You should be vigilant, humble and careful and, at all times, maintain your presence of mind. You should move about with my permission, and whenever you move, even without permission on occasion, your purpose should be to collect things for me according to your ability. When you aspire to become a physician and seek professional success, wealth, fame and heaven hereafter, you should cherish the welfare of all living beings and especially that of cows and brāhmaṇas. You should strive by every means to seek your patients' welfare and never entertain evil thoughts about them even at the risk to your life. You should not, even in dream, covet another's woman or property and should remain modest in dress, appearance and conduct. You should shun liquor and keep away from sins and sinners. Your words should be pleasing, truthful, well-chosen, brief and matter-of-fact. You should never lose sight of place and time, the constant pursuit of knowledge and the improvement of equipment and skills.

You should decline to treat the enemies of the king, traitors, persons disapproved by the nobles, and the wicked and loathsome in conduct who refuse to deny allegations against themselves. You should also decline to treat the moribund.

You should not treat, or accept a reward offered by women in the absence of their husbands or guardians. On visiting a patient's home you should be properly dressed and be accompanied by a person known to the family and whose entry is permitted. You should maintain a low profile but keep your memory sharp, and avoid unnecessary talk. You should concentrate your mind and senses solely on the patient, his wellbeing and his bodily and other features. What you witness in the house should not be told outside; nor should you tell a patient about his shortened lifespan when the news may seriously hurt him or others. You should not parade your knowledge because pedantry - even from experts - is always tedious.

Āyurveda is endless; so is its study. One should pursue it with unerring zeal because it deserves no less. Discarding jealousy, one should learn good conduct even from enemies because the entire world

is the teacher for the wise, just as it becomes the enemy for the unwise. The wise should welcome and act upon good counsel - even from an enemy -which vouchsafes gratification, long life, high repute, strength and esteem. The teacher should add 'May you always conduct yourselves well and appropriately before the gods, sacrificial fire, brāhmaṇas, preceptors, elders, noble people and the teacher so that this fire and all the offerings and gods may bless you and grant you happiness and wellbeing; if your conduct is otherwise, may the outcome be the opposite for you". The disciple should express compliance with the command, when he becomes eligible for instruction in āyurveda.

However, it takes more than study and teaching to train a physician: the third dimension is discussion; this ranks supreme in training. Discussion with peers and scholar physicians improves knowledge and skill, enhances eloquence, clarifies textual doubts, reinforces self-confidence, triggers novel ideas and brings fame. In an enthusiastic discussion with an attentive disciple a teacher may elaborate even secret doctrines to establish his position to the immense value of the student.

A discussion is of two kinds - friendly and hostile.[4]In a friendly discussion, the interlocutor is a learned and unflappable person who has the gift of exposition and opposition and is ready to convince and be convinced. Free from envy, he excels in amiable conversation and lightly carries knowledge which is sound and unassailable. In discussing with him, one should speak and raise questions openly and confidently and supply answers to questions in detail without fear or anxiety. Before him, there would be no gloating over the defeat of the opponent, blowing one's trumpet, holding dogmatically to one's position from past loyalty or seeking to expound what he does not know. The stress would be on convincing the other party of one's view with courtesy and tact. A hostile discussion calls for a different approach. Here one should carefully evaluate one's own strength vis-à-vis that of the opponent and look at the disposition of the assembly. In the comparative evaluation of oneself with the opponent, his strengths and weaknesses deserve close attention. Strength refers to the knowledge and understanding of scriptural texts, memory and recall, imaginative capacity and command of the spoken word. Weakness consists of being easily provoked, lack of expertise, timidity, poor retention and defective vigilance. One should evaluate oneself against the adversary in terms of these positive and negative qualities. However the opponent may be superior, equal or inferior not entirely on the basis of the listed qualities. Similarly, the assembly where the discussion is held may be friendly, impartial or hostile; it may also be erudite or ignorant. The qualities of the opponent and the assembly should guide one's approach to the discussions. For example, one should refrain from discussions if the assembly consists of scholars but is hostile, or if those assembled are ignorant. However, if the assembly is ignorant but impartial or friendly, one could engage in a discussion with an individual who may be less than learned or reputed or may even be held in low esteem. The policy in such unequal discussions should be to employ long and difficult passages from texts and heap ridicule with gesticulations, giving hardly any opportunity for the opponent to speak. One could then openly claim that he has failed to understand the difficult words and that he needs further instruction for a year under a preceptor to take part in a discussion. Once defeated, an adversary should not be entertained further for a discussion. This approach is totally inappropriate when the opponent possesses superior scholarship.

If the assembly is impartial and competent in terms of learning, interest and debating skill, one should again calibrate one's response in terms of the strength and weakness of the adversary. If he appears stronger one should feign passivity but switch to aggressive activity when he tends to falter. In such moments he should be worsted by attacking at his weakest; if his knowledge of scriptures is

deficient he should be confronted with long aphorisms; if his linguistic ability is weak he should be confounded by difficult words and phrases; if he lacks understanding he should be presented with apparently similar sentences which differ in meaning; if his expression is poor, he should be interrupted half way through his remarks; if he is easily provoked, he should be needled with barbed remarks; if he is timid, he should be intimidated; and if he is inattentive he should be chastised with strict discipline. In a hostile discussion one should not withdraw any remarks once they are made. However, hostile speech incenses others, and anger obscures the distinction between what should and should not be said or done. Therefore wisdom demands that anger and ill-temper are eliminated in a noble assembly.

In the anxiety to win, one may sometimes resort to tricks. For example, one may engineer the choice of a topic favourable to himself or very hard for the opponent for a discussion with the tacit approval of a friendly assembly. When the opponent loses, one should declare that he has no more to say and leave the judgement to the assembly who would record the result as 'worth announcement, or alternatively not worth announcement, and hence defeated'.

A physician discussant should be familiar with the technical terms relating to the wide-ranging aspects of discussions. These terms touch upon categories, methods and every aspect of debate and include forty-four terms such as vāda, dravya, guna, karma, sāmānya, viŋ ēsa, samavāya, pratijña and sthāpana.[5] The debate among physicians should be confined to topics in āyurveda, and the various definitions and statements in this section should be kept in mind throughout by the participants. Not a word should be spoken which is not well thought out or which is out of place or which is confused or lacking in scriptural authority. Whatever is said should be backed by reason because debates based on reason are free from ill-feeling, and advance the objectives of medicine by sharpening the intellect.

MORE TOPICS FOR A PHYSICIAN AT THE BEDSIDE[6]

Before treating a patient, a physician should carry out a comprehensive examination which bears upon therapy. It is possible that a querulous physician may raise questions such as: How and what examinations should be conducted before undertaking evacuative therapy? What are the things to be examined? What is the purpose of the examinations? If the questioner's intentions are unclear and one wishes to confound him it would be advisable to parry by saying. 'The types of examination and the things to be examined vary and have different classifications. Pray, tell me which particular grouping of examinations and things would you like me to discuss with you?" If his reply confirms his sincerity and fitness one should no longer question him but proceed to fully discuss with him the subjects of his interest.

The ten subjects which demand the attention of a physician who is called upon to treat a patient are the following.

DOER (KĀRAṆA)

The doer is the physician who is judged on the basis of his ability to conquer diseases and understand and apply medical aphorisms appropriately. In the first place, he should ask himself whether he could carry out the correct treatment in a given patient in the context of the illness and facilities available. Starting on this note, his endeavour would succeed to the extent that he has mastery of textual and practical knowledge, manual skill, necessary equipment, good health, particularly of sense organs,

understanding of human nature and the course of human action.

INSTRUMENT (KARAṆA)

The instrument is therapeutics because a physician employs the drug and other agents of therapeutics as an instrument to restore the balance among constituents in a patient. Therapeutic agents belong to two classes - spiritual and rational. Spiritual management involves incantations, auspicious rituals, worship, use of gems, blessings and similar measures. Rational therapy, on the other hand, involves the alleviation or elimination of disturbed doṣas with physical measures such as emesis and purgation. It may employ substances such as drugs, but it may not when psychological measures are used to induce sleep, surprise and joy, or when physical restraint alone is used. When a herbal drug is prescribed, careful attention should be paid to its properties, action, potency, time and mode of harvesting, preparation and dosage, effect on patient's constitution and his disorder, and whether it brings about alleviation or evacuation of disturbed doṣas.

SOURCE (KĀRYAYONI)

This refers to the source of a disorder, which is the imbalance of the body constituents. It is obligatory for a physician to examine the perturbed doṣas and the constituents which have been consequently vitiated and assess the grade and curability of the disorder.

PURPOSE (KĀRYA)

Purpose (kārya) refers to the objective of the treatment. This consists of the restoration of balance among constituents which is shown by relief from the ailment, restoration of normal voice, colour and strength of the body, good appetite, regular digestion of meals, sound sleep without dreams, proper output of urine, feces and semen, alertness and the harmonious function of the mind, intellect and sense organs.

RESULT (KĀRYAPHALA)

This consists of felicity of the mind, intellect, sense organs and the body as a whole - in other words, the achievement of happiness.

SEQUEL (ANUBANDHA)

The sequel to successful treatment is longevity.

PLACE (DEŚA)

This term refers to two different sites - the locale where the patient lives, and the territory of his body.

Locale

The territorial geography tells one of the land where the patient was born and brought up and where he became ill, and the food habits, conduct, health, disorders, mental traits and peculiarities of the people inhabiting the area. The medicinal plants growing in that area are of no less importance and deserve special attention.

Body[7]

The patient's body is also covered by the special term 'deśa'. More than anything else, the patient's body requires careful and detailed examination from several angles. A weak patient may succumb to treatment with highly potent drugs or surgery whereas a strong patient may fail to respond at all to weak drugs. The physician should therefore calibrate the medications and their dosage according to the strength of the patient's body. This involves, in turn, the assessment of his body constitution (prakṛti), nature of perturbation (vikṛti), status of dhātus (sāra), firmness (samhanana), body measurement (pramāna), adaptation (sātmya), mental status (sattva), digestive power (āhāra śakti), exertional capacity (vyāyāmaśakti) and age. Each of these ten bodily charateristics is outlined below.

Constitution (prakṛti)

This is a product of the union of ovum and sperm, time of union, uterine environment, nutrition, the conduct of the mother and the five basic elements. When any of these factors are touched by a doṣa or doṣas, the doṣas bind themselves and impart to the fetus a doṣa-dominated constitution (doṣa prakṛti). An individual with a śleṣmala constitution, for example, is strong, brave, learned, calm, prosperous and has a long life because his body constituents and organs are endowed with the qualities of kapha. Smoothness, softness, sweetness (which are among the properties of kapha) make the organs and body of the śleṣmala person smooth, felicitous, and well proportioned. He is also virile and fertile. The other properties of kapha also cast their reflection on the body.

A pittala individual is moderate in longevity, strength, knowledge, capacity to understand and prosperity. One observes the influence of the properties of pitta (hotness, sharpness, liquidity, carnal smell, sourness and pungency) in his body. Hotness makes him poorly resistant to heat, excessively hungry and thirsty, and causes cutaneous manifestations such as moles, pimples, wrinkles, greying and falling of hair, and brown moustache among others. Sharpness expresses itself in strength, a high degree of digestive power, gluttony and poor endurance. Liquidity is seen in mobile joints and muscles and copious output of sweat, urine and feces. These are merely examples.

Vātala persons are inferior in strength, longevity, offspring, and affluence. Their stature is short and organs rough and poorly developed because of the roughness of vāta which also underlies his hoarse voice and poor sleep. Similarly, lightness of vāta is responsible for their light and unsteady gait, food habits and speech, mobility is shown by unsteady joints, highly mobile eyebrows, joints, lips, tongue, head and extremities, speed shows itself in hasty action, irascibility, volatile temperament and poor memory. These are again illustrative, not exhaustive, observations. When a person enjoys the balance of dhātus, all these characteristics exist in harmony.

Perturbation of doṣas (vikṛti)

Perturbation of doṣas surfaces as a disorder synonymous with vikṛti. It should be examined for the grade of severity, curability, strength of the doṣa, body constitution, place, time and symptoms. When the intensity of the disease coincides with that of the constituent (dū ṣya), constitution, place, time, cause and nature of symptoms, the disease is judged as severe: the exact opposite of this would result in mild disease. Moderate variety has coincidence in only one doṣa, or one constituent, so that the strength of cause and symptoms is intermediate.

Essence (sāra)

Sara represents the essence of the components of the body. There are eight sāras which belong to the skin, blood, muscle, fat, bone, marrow, semen and the mind. Each of these must be examined in the

patient because the presence of sāras endows him with a specific set of physical and non-physical attributes. The non-physical attributes often provide a clue to the physical status of the sāras of the body components as indicated below.

Skin: The skin is smooth, soft, pleasant; hair is not plentiful but is delicate and shiny. It is associated with happiness, intelligence, power and longevity.

Blood: The forehead, ear, eye, tongue, nose, lips, palms and soles, nails, genitals are oily, red and attractive. It is associated with happiness, sharp intelligence, kindness, generosity, poor tolerance to heat and moderate strength.

Muscle: The muscles are strong and well developed in temples, forehead, back of the neck, eyes, cheek, jaws, shoulders, abdomen, axillae, chest, hands, feet and joints. It is associated with forgiveness, restraint, large-heartedness, scholarship, happiness, health and longevity.

Fat: There is a special kind of lubricity in the voice, eyes, hand, hairs, nails, teeth, lips, urine and feces. It is associated with prosperity, happiness, charity, simplicity and charm in action.

Bone: The hip, ankle, knees, elbows, collar bones, chin, head, nails and teeth are prominent. It is associated with enthusiasm, activity, strength and long life.

Marrow: The person has prominent joints, oily complexion, delicate voice and is strong. It is associated with longevity, erudition, prosperity and offspring.

Semen: The person has a lovely appearance and is very cheerful. The eyes appear as if filled with milk, the teeth are even and strong; the complexion is attractive and smooth, the voice shining, the buttocks prominent, and the person is preferred by women. It is associated with happiness, health, prosperity and offspring.

Mind: The essence of mind makes one notable for sharp memory, devotion, gratitude, erudition, courage, skill, tenacity in fighting, freedom from sadness and intense intellectual effort.

When an individual is endowed with all the essences, he combines in himself most of their individual properties. The lack of any or several essences deprives him of the corresponding attributes. In fact the eight essences help in assessing the three kinds of strength (high, moderate and low) of individuals.

Firmness (samhanana)

This refers to the compactness of the body in terms of sound muscle, skeletal structures and blood.1 Compactness indicates bodily strength, and a lack of it signifies varying degrees of weakness.

Body measurement (pramāna)

The width of the adult middle finger or angula is used as an index of measure in measuring the body. The normal values of various measurements are given in Table 26.1.

Table 26.1

Body part	Circumference (in angulas)	Height (in angulas)	Width (in angulas)	Length (in angulas)
Feet	-	4	6	14
Leg	16	-	-	18
Knee	16	-	-	4
Thigh	30	-	-	18
Testicle	8	-	-	6
Penis	5	-	-	6
Vulva	12	-	-	-
Hip	-	16	-	-
Bastiśīrṣa	-	-	-	10
Abdomen	-	-	10	12
Side (chest)	-	-	10	12
Beetween breasts	-	-	-	12
Chest	-	12	24	-
Heart (apex)	-	-	2	-
Shoulder	-	-	-	8
Shoulder blade	-	-	6	-
Arm	-	-	-	16
Forearm	-	-	-	15
Hand	-	-	-	12
Axilla	-	-	-	8
Sacrum	-	12	-	-
Back	-	18	-	-
Neck	22	4	-	-
Face	24	12	-	-
Mouth	-	-	-	5
Chin, lips, ears, mid eye, nose, forehead	-	-	-	4
Head	32	16	-	-
Body	84	-	-	-

Normal measurements suggest good health and long life. Less than normal readings are not conducive to good health.

Adaptation (sātmya)

In examining a patient, whatever he has adapted or accustomed himself to is important. Generally they are wholesome and beneficial such as ghee, milk, oil, meat soup, and all rasas which promote strength and longevity. However, an individual who gets adapted to rough foods and a single rasa runs the risk of weakness and shortened life span.

Mental status (sattva)

The mind commands the body by its bonding with the self. The mental strength of individuals may be high, medium or low. A person with great mental strength may be unmoved even by severe ailments no matter how they are caused: it hardly makes a difference that his stature is short. Individuals of medium strength manage to weather events with the support of others . When the mental strength is low, an individual fails to manage even with the support of others. Notwithstanding a big build, he can hardly tolerate pain, and is an easy victim to fright, grief, avarice, delusion and conceit. The mere sight of flesh or blood, or a terrifying or macabre narration may fill him with excruciating anxiety, and he may turn pale and faint or even die.

Digestive power (ahāraśakti)

Life is sustained by food, and the power to digest should be examined.

Exertional capacity (vyāyāma śakti)

This is measured by the capacity for work, which may be high, medium or low.

Age

Age is the status of the body measured over the passage of time. Its broad division is childhood, middle age and old age. Childhood extends up to sixteen years when the constituents of the body are tender and not fully developed, sexual characteristics are not mature, the capacity to suffer hardships is limited, strength is less than full and kapha is dominant. The developmental phase of the constituents and the fickleness of the mind may however last up to thirty years. Middle age (which follows this stage) lasts up to sixty years and is marked by strength, power, energy, virility, ability to grasp, understand and recall, fluency of expression and the attainment of the physical limit of the constituents. These qualities can last unimpaired with the full measure of physical and mental strength and dominance of pitta up to the sixtieth milestone. Thereafter old age sets in and extends up to one hundred years. This period witnesses the slow and gradual decline of dhātus, sense organs, strength, energy, virility, power, ability to grasp, understand, recall and speak, and the rise of vāta. Lifespan may be shorter or longer for certain individuals whose periods of childhood, middle age and old age should then be re-estimated on the basis of their constitution and other factors. The detailed examination of an individual within the framework of the ten factors ranging from constitution to age, enables the physician to place him in the superior, middle or inferior category of strength for therapeutic purposes. The perturbation of doṣas is graded separately as severe, moderate or mild. The patient's strength vis à vis that of the perturbation of doṣas holds the key to intelligent treatment.

TIME

Time refers to the passing seasons of the year.[8] It also denotes the course of the patient's illness. The year can be divided into two, three, six, twelve or more periods in response to a clinical procedure under consideration. For therapeutics, the year is best divided into six seasons of which winter (hemanta), summer (grīṣma) and rains (varṣā) are primary, and early rains (pravṛt), autumn (śarada)

and spring (vasanta) are intercalary. The intercalary periods have more or less uniform conditions which are ideal for performing evacuative therapy.

The primary seasons are notable for extreme weather conditions and unsuitability for evacuative therapy. For example, the body is exposed for the first time of the year to cold and cold wind in winter and becomes dry and rough with the consequent binding of doṣas. On the other hand, the drugs which bring about evacuation are naturally hot but are weakened by exposure to the cold wind. Under these circumstances, evacuative therapy fails and the body suffers the complications of vāta. Come summer, when the body is buffeted by severe heat and hot winds, the doṣas begin to melt as it were, but the medications being naturally hot become hotter still and exaggerate the effect of the evacuative therapy. In the third primary season or rains, the sky is overcast, the celestial bodies are hidden and rain pours in torrents. The earth is flooded and the body becomes wet while the herbal gardens rot. Consequently evacuative treatment loses much of its effectiveness and the body recovers even more slowly. Therefore the standard policy should be to suspend evacuative therapy during the three primary seasons. Even if it must be administered for emergency treatment, one should make prior efforts to mitigate the severity of weather conditions by artificial means during winter, summer and the rains.

Looked at from the patient's angle, time refers solely to the appropriate and inappropriate periods for performing a procedure during the course of his illness. It does not refer to a drug being preferable to another at a particular time. It behoves the physician to examine the patient carefully and frequently and decide upon the proper course of treatment and the time for its execution. Even if correct, the treatment is less than effective when given during untimely periods.

INITIATION OF TREATMENT (PRAVṚTTI)

This occurs when the medical quartet (physician, drug, patient and ttendant) assemble to initiate treatment.

PROCEDURAL MERIT (UPĀYA)

The merit of the therapeutic procedure depends upon the excellence of the qualities of the medical quartet and that of the facilities for treatment. The discussion of the ten entities to be examined by the physician (from the doer to procedural merit) does not cover all the clinical situations which may confront him. Clinical contexts may be so complex that they may make a case to carry out or not to carry out a particular procedure at a given moment. Therefore what is stated in the authoritative texts should be regarded as a general guideline with allowance for exceptions, and the examination and treatment of every patient must be individualised[9].

DRUGS FOR EVACUATIVE THERAPY

Physicians should consult the elaborate formulary of drugs when undertaking evacuative measures including emesis, purgation, six types of non-lubricant enema (āsthāpana), lubricant enema (anuvāsana) and head evacuation.[10]But a formulary has its limitations and the wise physician should not hesitate to avoid giving a listed drug if, in his judgment, it is inappropriate. Conversely, he should not shrink from using a drug not listed, or combining one group with another, if he regards it as beneficial. An aphorism is to the physician what a seed is to the farmer. While a dim-witted physician would follow it literally the wise physician applies it after critical examination and reasoning.

27 *The Body and its Knower*

The causeless self is not perceived or known by a living being who has a cause; but the self- unseen, eternal, and omnipresent - knows the body

The mind, self and body form a tripod which supports life in all its myriad forms The body in health and disease has been discussed at length However, many questions on the body-self relationship remain unanswered Why is the self regarded as the cause of the body? Are there different types of self based on different compositions? Where does it originate? If the self is the knower of the body, how does one explain activity which is a characteristic of life? How can it be born with handicaps and be assailed by painful diseases? Why cannot it see beyond a visual obstruction such as a hill? Which came first, the body or its knower? If the self is a witness, what did it witness when nothing existed except itself? If it is free from imperfections, how do varied sensations of pain occur? For that matter, what is the cause and basis of sensation? When do sensations come to an end?

The answers to such questions must be sought through earnest enquiry which must define its objects and methods To begin with, the individual (puruṣa) is a union of the the five elements and consciousness (cetana) But consciousness alone may also be called purusa, when it refers to the self (ātmā) Puruṣa may therefore mean an individual or his self.[1] Both these entities are presided over by the Self (paramātmā) which is eternal and without beginning.[2]

INDIVIDUAL (PURUṢA)

An individual, whether he is a physician or a patient, represents a union of the five elements and consciousness At another level, the individual can be deemed to consist of twenty-four constituents which are the mind, ten sense organs (five jñānendriyas and five karmendriyas), five sense objects, and the eight components of nature The components of nature in turn, are avyakta, mahat, ahaṅkāra and five tanmātras which are the forerunners of the five elements.[3]

MIND

The mind is a constituent unit of the individual Single and subtle, it serves to connect the self to the sense organs and their objects Thus it plays a crucial role in the acquisition of knowledge by individuals Except when the mind is attentive, healthy sense organs and their objects cannot effect the acquisition of knowledge The mind is the controller of the sense organs and the instrument for reasoning and critical analysis Like sense organs, the mind also has an object which is anything that attracts thinking, contemplation, analysis, decision making or reasoning The sense organs grasp objects in association with the mind which examines the observations in terms of good and bad, and

conveys the data to the intellect The data which reach the intellect in an imperfect state mature into knowledge and become the springboard of action only after they are processed by the intellect The mind is active but devoid of consciousness; it is the self which endows the mind with consciousness.[4]

SENSE ORGANS (JÑĀNENDRIYAS AND KARMENDRIYAS)

The sense organs are made of the five elements Each sense organ shows the dominance of one element in its subtle form - a conclusion reached through inference from previous observation There is a sequential increase in the number of qualities as the elements evolve from the lightest (ether) to the heaviest (earth) While retaining its dominant quality, a succeeding element subsumes the qualities of its predecessor Thus ether has sound, air has sound and touch, fire has sound, touch and vision, water has sound, touch, vision and taste, and earth has sound, touch, vision, taste, and smell Each succeeding element also carries a bit of its predecessor.[5] In addition, each mahābhūta possesses another specific quality which is accessible to the tactile sense alone These are continuity (ether), hotness (fire), mobility (air), liquidity (water) and solidity (earth) The five sense objects are entities such as sound, touch, vision, taste and smell which are received by the respective sense organs

In addition to the five sensory sense organs there are five motor sense organs These are hands, feet, arms, external genitals and the organ of speech Hands are for prehension, feet for locomotion, anus for excretion, external genitalia for procreation and tongue for speaking Of these, the tongue is the noblest in so far as its utterance of truth represents light and that of untruth stands for darkness

INTELLECT (BUDDHI)

The domain of the intellect begins at the frontiers of the mind.[6] Its operations are tailored to all the sense organs whose data it uses What emerges from the intellectual process is distinctive for each sense and for the mind For example, the intellectual product associated with the mind is termed manobhāva The combinations of sense organs, sense objects, mind, intellect and self are so varied in time and space that the intellectual products are countless The intellect processes the data and produces as many varied images (remarkable for their variety and sublimity) as the plucking of the strings with the fingernail raises notes from the strings of the veena.[7]

PRAKṚTI

Prakṛti connotes the primordial, undifferentiated matter, intellect, ego and the five tanmātras.[8] The primordial matter holds within it the union of potential evolutes - intellect, sense organs, sense objects and mind.[9]From primordial matter, intellect, ego, the five tanmātras and five elements evolve sequentially If this is prakṛti, what is bhūta prakṛti? This term refers to the physical source of living beings, which consists of the five elements, intellect, the primordial matter and ego Of these components, all except the primordial matter in a living body is collectively known as field (kṣetra), and the one who knows the field is the unmanifest knower (kṣetrajña).[10] It is bhūta prakṛti which gives rise to the five sensory and five motor organs, the five sense objects and the mind

An understanding of the composition of the individual is necessary to comprehend living phenomena such as actions and their consequences, knowledge and ignorance, pleasure and pain, life and death, and self-awareness This knowledge is necessary for understanding traditional knowledge and the practice of medicine

SELF (ĀTMA)

Can a pot be made at the wheel with a stick and clay without a potter? Can a house be made with mud, straw and wood without a builder? Such claims are absurd and could only be advanced by ignorant persons who are incapable of reasoning The fact is that the self is the cause of the living individual, which enables him to appreciate light and darkness, truth and falsehood, good and bad deeds, joy and sorrow, words, scriptures and texts, activities and movements, life and death, knowledge and freedom None of these would exist or be perceived or have a purpose without the self.[11] This has been ascertained through all the three means of attaining knowledge including scriptural affirmation

There are, however, dissenting views For example, the never-ending process of evolution gives rise to new products which were not present in the original substance; the conjunction of evolutionary products represents the whole individual with no room for self or a master.[12] Those who hold this view also claim that the evolutionary products would reap the fruits of whatever their predecessors had done This merely turns a blind eye to the doer The fact is that the instruments may be many but the doer is one and unchanging Given the instruments, it is the doer who is the cause of actions A living being perishes in a moment, never to appear again but the fruit of his actions will stay with him What gives continuity, and the means for reaping the fruit of past action, is the self In the absence of self, awareness of self, action, harvesting the fruit of action, transmigration and memory would be impossible

The self has no beginning, and having no beginning, it has no end either It receives knowledge through the instruments of sense and motor organs, intellect and mind; if the instruments are defective it cannot receive knowledge any more than a stained mirror can reflect an image The self again cannot act except through the instruments of sense organs Being non-active, the self does not directly experience the consequences of action.[13] Therefore the coupling of self with the instrument of the body is at the root of living existence The causeless self is not perceived or known by a living being who has a cause, but the self - unseen, eternal, and omnipresent - knows the body

When the union of an individual dissolves, the self breaks free from the union If ensnared by rajas and tamas, the self moves from the free, unmanifest state to the bound, manifest state, and repeats the cycles of birth and death endlessly This is the fate of those who are the victims of a powerful ego and those who are acutely aware of opposites such as pleasure and pain Only those free from attachment can escape the wheel of life which revolves between the manifest and unmanifest.[14] The self as well as the continued existence of the body are without beginning, and which came first must remain an unanswered question However, the self is its own mover and controller, none its master

The single self is invisible but, in the combined state, its signs are recognisable in bodily actions and phenomena such as rhythmic breathing, blinking, movement of the body, the mind's ability to process data from one sense and switch to another soon thereafter, impulse and restraint, racing to faraway countries in one's mind, deep sleep when one seems dead, perception by the left eye of what is observed by the right eye, will, consciousness, knowledge, memory, happiness and sorrow These signs of self disappear as soon as a man dies and leaves a corpse which is no more than a combination of the five elements.[15]

The self is free and capable of triggering action, but is consequently obliged to reap its fruit It is

however equally free to renounce action Although all-pervading, the self becomes limited in space by the tactile sense organ, once it is encased in a body In this lies the explanation as to why one self is unable to perceive the sensations of all bodies Being omnipresent, all-pervasive and great, the self can however focus the mind and detect even hidden objects The self is the witness in all living beings

SUPREME SELF

The supreme self or Self is eternal and without beginning Unlike the personal self, it is not bound to the instruments of the mind, intellect, sense organs and motor organs (and consequently subject to ignorance, likes and dislikes).[16]

CAUSES OF SORROW AND DISEASE

Desire is the major cause of sorrow even as its giving up removes sorrow As a silkworm brings forth and spins its fatal threads, an ignorant and wicked man feels temptation and gets caught by sense objects The other causes of sorrow and misery include lapses in intellect, self-control and memory; the call of particular times and contact with disagreeable objects Each of these can be exemplified The erroneous distinction between eternal and transient and wholesome and unwholesome is a lapse of the intellect The failure to restrain the mind from dalliance with undesirable sense objects points to a lapse in self control The clouding of the self by rajas and tamas and the obscurement of the knowledge of reality represent a lapse of memory When a person whose intellect, self-control and memory are deranged performs inauspicious or wicked action it is known as imprudent conduct; this vitiates all three doṣas.[17] Imprudent conduct is in reality an act of the mind

What about time as a cause of disease and sorrow? The effect of seasons has already been seen There are other examples such as timely and untimely ingestion, digestion and indigestion of food; the preference of ailments for forenoon, noon and afternoon or for similar intervals of the night There are even more vivid examples Specific fevers appear and attain intensity every day, or on the third or fourth day The decay and death brought on by time and old age cannot be prevented It is time which operates when a physician recognises a disease as recurrent, or periodic to prevent the recurrence Finally, the effect of past actions matures at particular times and defeats all therapeutic efforts

Disease is also a cause of sorrow and occurs when the senses come in contact with disagreeable objects This may be due to overuse, underuse or misuse of the senses.[18]On closer scrutiny, one realises that the sense organs and objects themselves are not the cause of happiness or sorrow; their appropriate and inappropriate uses (which involves the conjunction of sense organs, objects, mind, intellect and self) are the cause The cause of happiness is the balanced use of the senses This is not easily achieved

CESSATION OF SORROW

The desire for happiness and the avoidance of sorrow goad an individual to desires and deeds which offer adequate scope for the mind and sense organs to be tempted; only the hairs of the head and body, nail, ingested food and excreta are immune from temptation

All sensations cease in the state of yoga which precedes liberation (mukti).[19] In yoga, the mind is centred on the self and the processes of happiness and misery cease to exist This is accompanied by the rise of a superhuman power which confers eight exceptional gifts on an individual: extraordinary

memory and intellect, vision and hearing of a supernormal kind, the ability to read another's mind, enter another's body, vanish at pleasure and do exactly as one pleases These are yogic powers which appear when a pure mind focuses itself on the self As the yogī moves closer to his goal, rajas and tamas drop away, the effect of past actions melt away and liberation follows, which signifies freedom from rebirth.[20]

The preparation for yogic practice demands much from a person, such as the company of holy men, observance of fasting and other vows, scriptural study, solitude, aversion to mundane pleasures, self-control, concentration of the mind and endeavour for liberation All these actions spring from the recognition of what is real and what is unreal, which alone destroys sorrow and vouchsafes liberation by revealing the true nature of living things This has been affirmed by great yogīs as well as philosophers Whatever has a cause (such as the body) is impermanent and is a spring of sorrow: the self apparently suffers by falsely identifying itself with the body The rise of true knowledge and the recognition of what is real and what is unreal puts an end to suffering and enables one to identify the personal self with the supreme Self and achieve transcendence.[21]

28 *Conception*

Begetting a child is more than a physical act; it is a grand ritual.

BEGETTING A CHILD

Begetting a child is more than a physical act; it is a grand ritual.[1] A healthy couple, desirous of offspring, should initially clean themselves by evacuative measures. The man should then adhere to a diet consisting mainly of ghee and milk prepared with sweet medicinal plants and the woman to one with oil and blackgram. During the menstrual period of three days and nights, the woman should refrain from intercourse and adopt a simple lifestyle. On the fourth day she should apply oil on her body and take a bath. Both the woman and man should wear white garments and garlands and approach each other with love and endearment. They should have sexual intercourse on an even day after monthly periods for a male offspring, and on an odd day for a female offspring. The intercourse should be performed with the woman in the supine position, and not prone or sideways which can perturb the doṣas. After the intercourse she should take a shower with cold water. Many things can thwart procreation such as gluttony, hunger, grief, anger, desire for another man etc., on the part of the woman, or if either of the partners is too young, too old, or suffering from illnesses.

Before indulging in intercourse, the couple should be well aroused and be desirous of the sexual act. They should take to bed scented, agreeably clothed and after a light meal consisting of favourite dishes. The man should get on the bed with his right leg and the woman with the left. They should recite two invocatory mantras addressed to the gods before beginning the sexual act. If the woman wishes to have a son, strong in mind and body, fair, energetic and with reddish brown eyes, she should follow a special regimen for a week after intercourse. After bath, she should take a drink prepared from barley, honey and ghee and mixed with milk from a white tow with a white calf. The drink should be taken in a silver or bronze vessel at every meal. In the morning she should eat śāli rice and barley with curd, honey, ghee or milk and choose a lovely room, bed, seat, clothes and decorations for recreation in the evening. In the morning and evening she should watch a big, white bull or horse decorated with sandal paste and ornaments. Indeed, she should take care to see only men and women of cheerful looks, words and conduct, and pleasant sense objects. Her husband and friends should ensure that she is entertained with favourite stories and other agreeable things, but the couple should refrain from intercourse for a week. On the eighth day she should bathe herself and wash her hair, and sport white garments, garlands and ornaments.

A RELIGIOUS CEREMONY

A religious ceremony should precede cohabitation.[2] The priests would identify a spot to the north of

the couple's house with a slope towards the north or east. It should be cleaned, plastered with cow dung and water and a platform prepared. The priest should sit to the west on a seat of cotton cloth, a brāhmaṇa on a white bull's hide, a kṣatriya on a tiger's or a bullock's hide, and a vaiśya on that of a deer or goat. He should mark the boundary of the altar with sticks of palāśa, inguḍi, udumbara or madhuka and spread fried paddy grains, white and fragrant flowers on the altar. The water vessel should be sanctified by mantras, ghee for oblation prepared and a horse or bull of desired features located from around. The woman should then seat herself with her husband to the south of the priest who should invoke Prajāpati and make the sacrificial offering towards the genitals of the woman with the recitation of appropriate hymns. A bolus prepared according to rules should be offered as oblation to the fire thrice and the sanctified water pot given to the woman for regular use. Following the ceremony the couple should circumambulate the fire and share between them the "whole of the remaining ghee. Thereafter they should cohabit for eight nights to obtain a son. The procedure for the ceremony would differ slightly if the couple desired sons with different complexion and physiognomy. Śudra women may offer salutation to the gods, fire, brāhmaṇas, teacher, saints and noble persons instead of performing the fire ritual.

EARLY PREGNANCY AND GENDER OF THE BABY

When a man has sexual intercourse with a non-consanguineous woman after her monthly periods, his semen unites with her menstrual secretion and signals the formation of an embryo. The semen is a product of four elements namely, air, fire, earth and water and is nourished by die six rasas of food. When the male and female seeds (represented by semen and the menstrual secretion) are excellent, the uterus healthy, the entry of the self into the embryo assured, the mother's diet wholesome, and proper time and appropriate management available, a fully developed and normal baby is born safely and easily. If conception is delayed in a fertile woman, one should look for reasons such as defective genitalia, anxiety, disorders of the male or female seed, wrong diet and conduct, and debility. Nor should a mistake be made in diagnosing pregnancy when a woman's monthly periods are delayed by the internal accumulation of blood and the appearance of the false signs of pregnancy. When the blood gets discharged eventually, it is the ignorant who would claim that the fetus was destroyed by evil spirits. No evil spirits can injure the fetus unless they damage the mother's body and her ojas.[3]

Whether the baby is male or female is determined by the respective dominance of the male or female seed. A similar principle operates when the fertilised seed divides to form twins who may be of the same or of different genders. If the mother's nutrition is poor, the fetus may suffer or abort or, in the case of twins, develop unequally. If the male and female seeds are perturbed in equal measure, the offspring may have both male and female characteristics and be called hermaphrodite (dwireta). If the perturbed vāta damages the abode of semen or its passage, the offspring may suffer from absence of semen or faulty erection. When the couple are weak and their reproductive vigour is low, it may result in male or female sterility. When the woman is frigid or the positions during intercourse are abnormal or when the man has inborn sexual disorders the penis may assume a crooked shape. If the couple have weak libido but much jealousy, a morbid sexual condition (īrṣyābhirati) results. Lastly, the perturbation of vāta and agni can destroy the testicles, as a result of which male sterility occurs.[4]

SIGNS AND SYMPTOMS OF PREGNANCY

Salivation, heaviness of the body, tiredness, joy, discomfort in the heart region, serenity and retention of the fertilised seed in the uterus mark the onset of pregnancy. Quickening movements towards the

left, increased sexual desire, longing for special foods and drinks, copious secretion in the left breast, gravid uterus not exactly round, with the fetus inclining to the left - all these suggest a female offspring. Signs to the contrary are indicative of a male issue. Whatever a woman's mind focuses on during conception determines the personality of her child.

The fetus consists of contributions from the parents, nutrients and self: the ultimate constituents are, however, four elements - ether alone takes no part. While the physiognomy is determined by the effect of the past actions of the parents, the mental profile is also influenced by past life including existence in different species. Defects in the male and female seeds, the effect of past actions, uterine environment, mother's nutrition and conduct are some of the factors which may perturb the doṣas and consequently give rise to anomalies of shape, colour and sense organs of the fetus.[5]

THE SELF AND THE EMBRYO

The self attended by the four elements move from one body to another according to the pull of past actions. It is not visible except to the superhuman eye, it moves everywhere, takes many forms, supports all bodies and sustains work of every kind. It is the source of consciousness, is beyond the senses, yet is closely bound in the embryo. The four elements which form the fetus are derived from each of the four sources of a fetus - both parents, the self and nutrition. They make a total of sixteen constituents, four from each source. The four constituents associated with self are the effects of actions in past life. The effect of past deeds decrees that the physical form and mind of the fetus are derived from its parents; the differences in physical and mental profiles indicate the overlay of rajas and tamas as well as that of past actions.

29 *Genesis of the Embryo*

The embryo is a product of the mother, father, self, nutrition, mind and congeniality.

The male and female seeds unite in the uterus when a healthy man has sexual intercourse with a healthy woman after her monthly periods are over. When the self (borne by the mind) enters the united seed an embryo forms. It imbibes nutrients from the uterine environment and grows without anomalies in the absence of mismanagement. At the appropriate time it is delivered with a fully developed body, sense organs, mind, complexion and strength without difficulty.

The embryo is a product of the mother, father, self, nutrition, mind and congeniality. The role of each of these could however be disputed. If the parents did produce the embryo, they should obtain male or female offspring as they desired; nor should any couple be without children. As for the self, does it give rise to the embryo in its born or unborn status? Omnipotent as it is, why does it not always take birth in desired species with all the conceivable blessings? Nutrition cannot be the agent because childless couples do not lack nutrition: nor is it observed that couples eating rich and nutritious food are more fertile than others who subsist on inferior food. If the mind were the primary causative factor entering the embryo, should not the individual have exact recall of all that had happened in the past life? Lastly, congeniality cannot be the cause because fertility is by no means confined to couples who eat congenial food. This kind of disputation is misplaced because it is not each entity which brings the embryo into existence but their combination.[1] Each member contributes a distinctive share to the development of the embryo. The mother is indispensable even for the oviparous, and her derivatives in the fetus are soft tissues and organs such as skin, blood, flesh, fat, heart, liver, spleen, kidneys and the gastrointestinal system. The father is equally indispensable but the paternal legacy for the fetus consists of, besides semen, hard tissues and substances including teeth, bones, vessels, ligaments and hair. The self is the jīva of the fetus, which is without beginning, eternal and immune to death and decay. It is unmanifest and immutable. It is the entry of the self into the union of the male and female seeds in the uterus that consolidates and vitalises the embryo. The self is not born - its appearance in the fertilised egg is not birth but an altered state, which is no different from its immutable presence in the body which matures and decays. For all that, parents and self are not free agents in the formation of the embryo - the effect of past actions too must play its role. However, there is little doubt that happiness and misery, birth in higher species, lifespan, self-knowledge, vital functions, consciousness, will, intellectual functions and liberation owe their source to self. The things and bodily events caused by self include birth in a particular species, longevity, self-awareness, sense organs, mind, rhythmic breathing, voice, happiness and sorrow, likes and dislikes, consciousness, self-restraint, intellect, ego and will.

Nutrition is vital for the embryo even as it is for the survival of the mother. Conception may fail in

the absence of nutrition even though nutrition alone cannot produce conception. The contributions of nutrition to the development of the embryo are the growth and consolidation of the body, maintenance of breathing, bulk, energy and satisfaction.

The mind enters the embryo in the company of the jīva. It supports the sense organs, and its departure is heralded by deranged senses, diminished strength and the onset of disease. The mind is of three types - sāttvic, rājasic or tāmasic - and whichever of the three qualities rules the mind is certain to accompany it in subsequent births. A sāttvic mind is capable of recalling the events of past lives - a faculty which results from the concentration of the mind on the self. The derivatives of the mind in the embryo are tendencies, conduct, dislikes, cleanliness, memory, delusion, envy, courage, fear, anger, energy, enthusiasm, tenderness, gravity and instability. The three qualities of the mind may be present in varying combinations in individuals; one quality does not always dominate.

Lastly, congeniality also plays a role in the genesis of the embryo. Sterility in men and women is mainly due to the use of uncongenial or incompatible substances such as food, drinks or drugs which perturb their doṣas. The perturbed doṣas in turn affect the male and female seeds and the uterus with consequent damage to the embryo. Congeniality on the part of the parent's lifestyle is responsible for the good health, cheerfulness, generosity, fine voice and fertility of the embryo.[2]

Granted that parents, self, nutrition, mind and congeniality contribute to the formation of the embryo, how do they combine and make sure that the combined mass goes on to develop a human form, or the form of a cow or horse in the case of bovine and equine embryos? How are the children of the dull, blind, dumb and those afflicted by diseases like leprosy spared these disorders? The answers to such questions lie in the observation that the mind with its past associations enters the embryo as an adjunct of the soul and influences the embryonic and fetal development. Secondly, the embryos of viviparous and oviparous creatures, once they gain shape, can follow only a preset course of development. This would be akin to various moulds into which different molten metals are poured. No matter what is poured, the cast would always correspond to the moulds which may be human, bovine or equine. Thirdly, if the seed of the parents is unimpaired, their handicaps such as blindness and diseases such as leprosy would not injure the embryo.[3]

30 *Pregnancy - Fetal Development, Anomalies and Personality Types*

According to some, the question of organogenesis cannot be settled because the events in the embryo are not observable.

PREGNANCY

The embryo represents a synthesis of the five elements and consciousness. Fertilisation and the formation of the embryo is followed by the characteristic signs and symptoms of pregnancy, some of which have been mentioned. Missed monthly periods, salivation, loss of appetite, vomiting, yearning for sour articles, preference for high and low things, heaviness of the body, languor in the eye, lactation, black pigmentation of the lips and areola, appearance of slight swelling on the feet and fine hair on the lower abdomen, and dilatation of the genital passage, become readily noticeable as pregnancy advances in the early stages.

SEQUENTIAL DEVELOPMENT OF THE FETUS

When the menstrual flow has ceased and a new seed appears, and the woman's uterus and genitalia are in healthy condition, she enters the fertile period of the month. If then a healthy man has intercourse with her, his semen which is the quintessence of all his dhātus gets injected during orgasm into her genital tract. The semen with a potential seed travels through the tract to reach the uterus and fertilises the female seed by combination. The first event to follow the union of the male and female seeds is the advent of consciousness with the mind as an adjunct. Consciousness, in this context, has many synonyms which point to its identity with the self and its all-pervasive role. The synonyms are cause (hetu, kāraṇa, nimitta), doer (kartā), thinker (mantā), master (veditā), knower (bodhā), seer (draṣ ṭa), supporter (dhartā), creator (braḥma), cosmic architect (viśvakarmā), cosmic figure (viśvarūpā), and dweller of the body (puruṣa), source (prabhāva), receiver (grahaṇa), chief (pradhāna), jīva (life-principle), ego (pudgalā), essence of living beings (bhūtātma), essence of sense organs (indriyātma), inner essence (antarātmā), omnipresent (vibhu), possessing sensations (chetanāvān), conscious (jña), unmanifest (avyakta), having qualities (guṇi), eternal (nitya) and immune to decay (avyaya). Entering the scene of embryogenesis, the self acquires the qualities of the five elements through the instrumentality of the mind, which accompanies it. The uptake of the five elements starts with the lightest (ether) and progresses sequentially to the heaviest (earth). This process takes place during a brief moment of time.[1]

First month: At this stage the embryo consists of a shapeless mixture of all constituents endowed

with all the qualities of the elements and with organs in the actual and potential modes.

Second month: The embryo solidifies and assumes the shape of a bolus; solid, flesh-like and tumour-like appearances indicate male, female and neutral gender, respectively.

Third month: There are conflicting views on the initial stage of the formation of organs in the embryo. Some hold that the head appears first because it is the seat of all the sense organs; others claim that the heart is the first to appear because it is the abode of consciousness; yet others believe that the navel has precedence as it is the fetal pathway for receiving nutrition. Rectum as the seat of vāta, limbs as locomotor instruments, sense organs as the means of knowledge also have their proponents. According to some, the question of organogenesis cannot be settled because the events in the embryo are not observable. But the view of Dhanvantari that all embryonic organs appear at the same time has the widest acceptance.[2] Organs cannot only be classified according to their derivation from mother and father, they can also be grouped on the basis of their evolution from the five elements. Thus, ether gives rise to sound, auditory organ, lightness, subtleness and discrimination; air accounts for touch, tactile organ, roughness, instigation, assembly of dhātus and activity; from fire originate vision, visual organ, light, digestion and heat; water is responsible for the evolution of taste, organ of taste, coldness, softness, lubrication and wetness; earth gives rise to smell, organ of smell, heaviness, stability and mass. From this point of view, an individual is a simulacrum of the cosmos. Whatever exists in the universe exists in the individual who is a cosmic resonator.

In the third month, the body parts including sense organs appear together leaving out structures such as teeth and secondary sex characteristics; these appear after birth. The body parts of the fetus carry the clear characteristics of male, female or hermaphrodite. At the moment the sense organs appear, the fetus receives the unchecked stream of consciousness and begins to pulsate and express cravings for whatever had appealed to it in an earlier existence. This state when the hearts of the fetus and the mother beat simultaneously is termed 'state of two hearts' (dauhṛdam). Since the fetal heart is a maternal derivative, the two hearts are connected by vessels which transport nutrients. No wonder, they also transmit cravings. For this season, the cravings of the mother should not be ignored lest it injure the fetus. At this stage the welfare of the mother and fetus is achieved through identical means; the mother should be served with things which are dear and agreeable to her. Whatever she desires should be given except those which could harm the fetus (very heavy, hot and caustic food, and hard manual work) .[3] Experts caution that she should refrain from wearing red clothes, taking intoxicating drinks and meats, and riding in vehicles. She would be wise to avoid everything which repels the senses, and pay attention to the instructions of elderly women who are well informed on the care of the pregnant.

Fourth month: The mother feels a special sense of heaviness and the fetus attains stability. The fetus, free from thirst and hunger, is totally dependent on the mother for nutritional and life support in the early stages when its organs are not formed. The umbilical cord is attached to the navel of the fetus at one end and to one side of the placenta at the other. The opposite side of the placenta is connected to the mother's heart which soaks the placenta with blood through its pulsating vessels. Thus nutrition reaches the fetus and enhances its strength and complexion. The nutrition of the mother nourishes her body, promotes lactation and supports the development of the fetus. The fetus remains in the uterus with the head up, face turned towards the mother's back and limbs folded. It is only at the time of birth that the head rotates and takes the lead in emerging through the genital passage of the

mother.[4]

Fifth month: The mother tends to become thin and the development of flesh and blood in the fetus progresses relatively rapidly.

Sixth month: The mother continues to lose strength and complexion while the fetus gains in both respects.

Seventh month: The mother tends to get worn-out; fetal development makes good progress in all aspects.

Eighth month: This is a difficult month because the mother and fetus exchange ojas repeatedly through the inter-connecting vessels which transport rasas. The exchange is important for the fetus which is not mature at this stage. The ebb and flow of ojas may underlie the fluctuating moods of the mother and perhaps those of the fetus. Therefore a delivery during this month may be risky to the fetus.

Ninth month: The ninth to the tenth is the month of parturition. It is abnormal for the fetus to stay in the uterus beyond this period.

Fetal development and anomalies

The fetus grows and develops in the uterus thanks to the favourable maternal factors including her conduct, proper nutrition, the warmth of the environment, passage of time and the course of nature. Defects in the fertile response of the mother may result in the loss of the fetus; indeed defects in any of the favourable factors could lead to the loss of the fetus or premature birth.[5] There are several other causes which cause permanent harm to the fetus. If the doṣas are perturbed in a pregnant woman they may damage the uterus and the female seed without destroying them. If she then becomes pregnant, some of the maternal factors affected by the doṣas could give rise to fetal anomalies. Many examples would illustrate such events. If the uterine derivative from the mother is damaged, the offspring would be sterile; if a part of it is damaged, the fetus could be putrefied. If the other body parts from the mother are also damaged in the same manner, the child may look like a female but not be really female. This condition is termed vārtā. Similarly, if the male seed in semen is affected, the child could be born sterile. If no more than a part of the paternally derived factors is affected by disturbed doṣas, the fetus could become putrefied: when the rest of the paternally derived body parts are also non-fatally damaged, the body would be like diat of a male, but not really be male. This condition is called 'tṛṇaputrika'. These are some of the fetal anomalies which are seen in clinical practice.

Personality types[6]

The self is immune from disorders and morbidity no matter what the species are. The changes including disorders that one sees in individuals must therefore be traced to the body and mind. Based on origin, the body has been classified into four groups, but the mind has three types -(sāttvic, rājasic and tāmasic). The sāttvic represents perfection whereas rājasic and tāmasic minds have numerous imperfections arising from ignorance and turmoil. Each of the three types has subdivisions because the body-mind relationship is varied and changeable, and the body and mind interact in all species. Based on the three mental qualities of sattva, rajas and tamas, a number of personality types are recognisable.

Sāttvic types

1. Braḥma like (brāḥma): Pure, true to his word, perfectly self-controlled, sharing things with all, learned, discriminating, eloquent; has clear memory and is free from passions, conceit, delusion and envy; regards all living beings equally without distinctions.
2. Ṛṣi-like (āṛṣa): Devoted to vedic rituals, scriptural study and celibacy, reverential to guests, gifted with imagination, eloquence, memory and recall, free from conceit, attraction and repulsion, delusion, greed and anger.
3. Indra-like (aindra): Prosperous, sweet spoken, brave, conquering, and unconquerable, devoted to virtue, sacrifices, affluence and enjoyment.
4. Yama-like (yāmya): Maintaining accounts of good conduct, taking timely action, unbeatable, gifted with memory, supremacy and freedom from attachment, envy, hatred and delusion.
5. Varuṇa-like (vāruṇa): Courageous, patient, unstained, devoted to sacrifice, water sports and effortless action, angry and composed at appropriate times.
6. Kubera-like (kaubera): Associated with high position, attendants, conceit, enjoyment and virtuous actions; clean, wealthy, easy going, pleasure-loving, giving vent to anger and goodwill
7. Gandharva-like (gāndharva): Lover of music, dance, musical instruments, word play, poetry, literature and epics; connoisseur of perfumes, garlands, clothes, cosmetics and amorous sports.

Rājasic types

1. Asura-like (āsura): Courageous, jealous, ferocious, domineering, cruel, prone to self-praise.
2. Rākṣasa-like (rākṣasa): Resentful, angry, attacking at weak spots, cruel, gluttonous, relishing meat, envious, enjoying sleep as well as physical excesses.
3. Piśāca-like (paiśāca): Gluttonous, amorous, dirty, disliking cleanliness, cowardly, frightening, accustomed to unnatural food and activity.
4. Sarpa-like (sārpa): Brave when provoked, otherwise cowardly; intense, industrious, intimidating wherever he goes, loving food and fun.
5. Prēta-like (praita): Fond of food, vexatious in behaviour and demeanour, jealous, ungenerous, greedy and indolent.
6. Śakuni-like (śakuna): Emotional, always engrossed in eating and fun, changing ideas, intolerant, saving little.

Tāmasic type

1. Paśu-like (pāśava): Devoid of intelligence, negative, accustomed to disgraceful food and conduct, engrossed in sex and sleep.
2. Matsya-like (mātsya): Cowardly, foolish, gluttonous, fickle, prone to anger and other passions, prefers water.
3. Vanaspati-like (vānaspatya): Inactive, addicted to food, showing little intelligence or activity.

The classification of personality types is useful to the physician in treating disorders of individuals who differ in their personalities.[7]

31 *Antenatal and Postnatal Management and Care of the Baby*

The proper management of pregnancy is no less precarious man carrying a cup filled to the brim without spilling the oil.

THE FETUS AND THE COURSE OF PREGNANCY[1]

The pregnant woman should adopt a lifestyle, diet and conduct of a community whose sons approach her ideal of a son. She should mentally pay visits to such communities; this has a beneficial effect on the fetus, and on the complexion in particular. The five elements also play a role -fire in association with water and ether confers fair complexion, the earth and air cause dark colour, and all the elements in a balanced ratio account for the dark-blue hue of the sky. The mind of the baby is influenced by the psychological personality of the parents, what the mother hears and the effect of past actions.

Before gender differentiation takes place, it is possible to induce a change of the embryo to male sex provided the rituals are carried out meticulously in terms of place, time and rules. This procedure known as 'pumsavana' is performed before the fetus develops sexual identity. The woman should take two leaf buds of a banyan tree facing the east and north, which are mixed in curd with two seeds each of blackgram and white mustard when the puṣya star rises. Under the same star, she should also take other established medicinal preparations and non-therapeutic measures which may be advised by brāhmaṇas and experienced women.[2]Regardless of gender, the fixation of the fetus in the uterus is accomplished by wearing aindrī, brāhmī, śatavīryā, sahasra vīrya and viśvakṣ ēnakāntā on the head or right hand, taking milk and ghee processed with them and bathing in water treated with the same plants. She should always keep a stock of the plants and additionally take tonics of the 'jīvanīya' group.[3]

As the pregnancy progresses normally the woman should follow a graduated dietary regimen from the first month. Similarly special attention should be paid to the care of areola and nipples, prevention of itching, judicious use of enema in the ninth month and lubrication of the vagina.[4]

The fetus may die, dry up or prematurely exit from the uterus for many reasons such as a pregnant woman sitting on a rough, irregular or strong surface, suppressing natural urges, fasting, and eating too much pungent and hot food. Premature delivery may be induced by the woman sustaining a physical injury or undertaking excessive physical activity, by travelling for long in rickety carts and by frequent exposure to ditches, wells and waterfalls. If she prefers to lie mostly on her back, there is a good chance of the umbilical cord coiling around the baby's neck. Other kinds of fetal damage are

also possible. If the woman sleeps in the open or moves about at night, the baby may become insane and if she is aggressive and quarrelsome, the child may turn out to be an epileptic. The offspring tends to have disorders, the causes of which can mostly be traced to the mother's lifestyle and conduct. There are many more examples of maternal behaviour leading to various effects on the fetus: sexual intercourse giving rise to the infirm and licentious, anguish leading to timidity and shortened lifespan, malice to wickedness and lust, stealing to animosity or idleness, too much sleep to drowsiness, deficient wisdom and digestive power, habitual drinking of wine to poor memory and mental instability, eating iguana meat to urinary stones, eating sweets regularly to diabetes and obesity, eating sour things to internal bleeding and skin disease, eating salt constantly to premature greying and baldness, eating pungent items to deficiency of semen and sterility, consuming bitter foods in excess to weakness and consumption, taking astringents constantly to constipation and dark colour. Paternal defects too can affect the fetus along similar lines.

For the prevention of damage to the fetus and for the treatment of the woman's illnesses, a regimen (consisting of diet and drugs that are soft, sweet, cold and wholesome) is necessary. There is no place whatsoever for evacuative measures, venesection or enemas except in an emergency which may arise after the eighth month. The proper management of a pregnancy is no less precarious than carrying a cup filled to the brim without spilling the oil.

ANTENATAL CARE

In an uneventful pregnancy, the routine for antenatal management[5] is summarised in the following table:

Table 31.1

Month	Recommended measures
First	Cold milk, nutritious food
Second	Milk cooked with sweet substances
Third	Milk supplemented by ghee and honey
Fourth	Milk supplemented by butter
Fifth	Milk, ghee as before
Sixth	Milk, ghee cooked with sweet drugs
Seventh	Milk, ghee, gentle massage of areola with paste of sandal and lotus stalk or other medicated preparations Diet free from salt, fat; give sweet and vāta-relieving foods
Eighth	Milk gruel with ghee
	Lubricant enema; swab soaked in the same lubricants placed in the vagina to smoothen the

Ninth	passage of the fetus

Meticulous attention to antenatal measures will ensure the good health and suppleness of the mother and easy and safe delivery.

MISCARRIAGE - FETAL DEATH IN UTERO

If menstrual blood appears in the second or third month in a pregnant woman - usually due to poor supervision - the fetus is unlikely to survive because of its lack of fixation at this stage.[6] If bleeding occurs during the fourth month or later due to emotional excesses or inappropriate conduct, treatment should be started immediately to, stabilise the pregnancy. The subject should be advised strict rest on a comfortable bed with the head slightly lowered. A cotton pad dipped in ghee and yaṣṭimadhu powder should be placed on her perineum and the abdominal wall below the navel smeared with ghee and washed repeatedly a hundred or even a thousand times. Alternatively, very cold milk or an extract of yaṣṭimadhu or nyagrodha group should be applied over the lower abdomen, and the woman made to take a bath in cold water. Pieces of cotton cloth soaked in the juice of astringent plants or in milk and ghee cooked with the leaf buds of nyagrodha should be placed in the vagina, and the same material as a ghee extract should be taken orally in a 10 g dose (akṣa). Other oral medications include stamens of lotus and water lilies mixed with honey and sugar. Her diet should include water chestnut, lotus seeds, gandhapriyaṅgu, nīlotpala, lotus roots, new fruits of udumbara and leaf buds of banyan processed in goat's milk, cooked red śāli rice with honey and sugar, and milk cooked with roots of balā, atibalā, śāli, ṣaṣṭikā, sugarcane and kākoli. Alternatively, she should eat the rice with meat soup of common quail, grey partridge, kuraṅga, sambara, deer and rabbit with ghee and enjoy the meal in a cool, well-ventilated place. She should refrain from physical exercise, sexual activity and upsetting emotions. She should be exposed to pleasant experiences such as listening to happy and comforting stories.

If vaginal bleeding or discharge is provoked by the intake of hot and pungent food when the fetus has developed further, the fetus may cease to grow and remain for long in the uterus. This is called upaviṣṭaka; if the woman observes too many fasts and becomes severely malnourished, the fetus again ceases to grow, shrivels and remains in the uterus, a condition named nāgodara.

If the fetal growth seems to have stopped and the woman fails to notice fetal movements, she should take soft, sweet cooked śāli rice with meat soup of hawk, fish, cow, peacock, partridge with ghee as supplement. Alternatively, she could take blackgram or radish soup with ghee. She should also undergo frequent massage with tolerably warm oil over the abdomen, pelvis, groin, thigh, waist, sides and back.

Some women who feel the upward movement of wind with constipation in the eighth month may not be candidates for lubricant enema. As the complaints spell danger to the mother and fetus, a lukewarm, non-lubricant enema should be given with a decoction of several herbs as prescribed. After bowel movement, she should have a shower with lukewarm water and then take agreeable and nourishing food. In the evening she should have an enema with oil processed with sweet drugs. The enemas should be given with the woman in kneeling position.

If the fetus dies due to various causes mentioned earlier, the abdomen becomes quiet, distended, rigid, cold and stony hard. The woman would complain of severe abdominal pain instead of labour

pains, darkness before eyes, dizziness, shortness of breath and severe disquiet. There would be no vaginal bleeding or discharge. Different experts suggest different ways of managing this grave condition. One view holds that the dead fetus is a foreign object and should be removed by attempting to remove the placenta. Some recommend the chanting of Atharva vedic mantras; others believe that the extraction of the fetus is a job for an accomplished surgeon. After the extraction of the premature fetus the woman should be given wines of the āsava type, strengthening and easily digestible diet and supportive measures. If the fetus is mature she should undergo lubricant therapy on the day of the fetal extraction.

A HOUSE FOR DELIVERY

Before the ninth month, a proper dwelling should be put up on land that celebrates the sweet smell, look and taste of good earth.[7] It should be free from rocks, bones and broken earthware. The structure should be made with the wood of bilva, tinduka, bhallātaka and other trees suggested by brāhmaṇas learned in Atharva veda. A good architect should design the house with spacious rooms, good quality plaster and roofs, door shutters, altar for fire, store for water, provision for wooden mortar, lavatory, bathroom and kitchen. It should be suitable for use throughout all seasons and provided with adequate supplies of drugs and wines, furniture and equipment as listed. The house should accommodate many multiparous women who are friendly and affectionate with unflappable temperament and good manners. It should also provide access to brāhmaṇaswho are experts in the Atharva veda (Fig. 31.1). It would be wise to supply whatever else may be sought by the women and the brāhmanas. On an auspicious day at the beginning of the ninth month when the astral combination is favourable, offerings should be made to the sacrificial fire, cow and brāhmaṇas who should be requested to recite sacred mantras. To the accompaniment of chants, the woman should enter the dwelling following a cow and the brāhmanas, taking care to keep them to the right.

CHILDBIRTH[8]

The onset of labour is marked by tiredness, facial expression of languor, feeling of decompression in the chest, descent of the womb, heaviness of the lower part of the body, pain in the groin, perineum, waist, abdomen and sides, vaginal discharge and loss of desire for food. These signs and symptoms are followed by labour pains and the flow of clear fluid through the vagina. At this stage the woman should sit on a soft bed on the ground, and experienced and friendly woman should attend on her and speak words of reassurance. If the delivery does not progress in spite of labour pains, the woman should not be asked to do exercise such as pounding grains with a pestle as some practitioners erroneously advise. Instead she should practise deep breathing and inhale a medicated powder as prescribed. She should also be massaged gently with lukewarm oil over the waist, sides, back and legs.

When the subject feels relief in the compression in the chest and cardiac region, it indicates that the fetus has moved down and is gripped in the pelvis. The labour pains increase at this stage when she should be placed on the cot and asked to strain. A friendly woman should whisper invocatory mantras in her ear for the safe delivery of a resplendent son like Kārtikeya and for being guarded by him. An experienced woman should tell the subject not to strain except when the pain appears lest effort should be wasted. Straining out of turn would be as wasteful as straining to sneeze, cough, pass flatus, feces or urine in the absence of an urge. Just as natural urges should be promptly complied with, labour pains should be acknowledged by gradually increasing the degrees of straining. As soon as the

baby is delivered, the attendant should whisper the glad tidings of the birth of a son in her ear.

Once the baby is delivered, attention should be paid to the expulsion of placenta. If not, a woman attendant should apply pressure with her right hand above the navel while supporting the mother's back with the left hand, and shake the body vigorously. The pelvic area of the mother should be massaged with the heel and the buttocks held tight and pressed. Her throat and palate should be gently touched with her braid, and the genital tract exposed to fumes from the burning leaves of bhūrja, kācamaṇi and the cast-off skin of snakes. She should drink any of the various medicated soups or wines and take pastes and decoctions prepared from medicinal plants and animal products. A cotton swab dipped in oil medicated with śatapuṣpā, kuṣṭha, madana and hiṅgu should be inserted in her genital tract and followed by a lubricant enema. This should be followed by a non-lubricant and medicated enema. The composition of the various medicated soups, pastes, drinks and enemas should be obtained from the text.

Fig. 31.1 A woman in labour. Note the physician nearby and attendant women.

Following the non-lubricant enema, the placenta is usually expelled along with flatus, feces and urine, the holding of which contribute to the retention of placenta. While the expulsion of the placenta is being facilitated, the newborn should also be promptly attended to. To stimulate the body, a piece of stone could be gently rubbed at the root of the ear, and cold or warm water sprinkled over the face so that the baby would begin to breath. If he fails to move, he should be fanned till he recovers and shows movement. After breathing becomes regular the baby should be bathed and cleansed with water. A stainless cotton pad wrapped around a finger with the nail pared and cleaned should be used to clean the baby's lips, mouth, tongue and throat. The anterior fontanelle on the head should be covered with a cotton swab dipped in oil. To remove mucus it may be necessary to induce vomiting by giving a combination of ghee and rock salt.

At this stage it is necessary to cut the umbilical cord. At a point eight fingers from the attachment of the cord to the navel, it should be held tightly on either side and divided with a gold, silver or steel knife which is sharp on one side. If the cut section gets inflamed or infected it should be rubbed with

an oily preparation or powder of lodhra, madhūka, priyaṅgu, devadāru and haridrā. If the the cord is incorrectly cut, various complications may arise such as inflammatory swellings, hard lump or a hernia. All these conditions would call for specific treatment.

The first feed of the baby should consist of honey and ghee accompanied by the chanting of appropriate mantras, and a jar filled with water and sanctified by mantras should be kept by the side of his head. Breastfeeding begins thereafter, the right breast taking precedence.

AFTER DELIVERY[9]

The dwelling of the mother and child should be bounded by the branches of medicinal trees and the seeds of mustard, linseed, rice, and kā ṇakaṇikā scattered all over the place. Rice offering to the sacrificial fire should be made twice a day till the child's naming ceremony. A wooden pestle should be placed immediately inside the entrance in a slanted position and a cloth bag filled with medicinal plants and seeds hung at the front door. A similar bag should be worn by the mother as well as the child, and kept in the cooking utensils and water pots. A fire should be lit with kānakaṇikā and tiṇḍuka wood and tended constantly in the house, and the attendant women should keep vigil near the mother and child all night for ten to twelve days. Gifts, benedictions, religious rituals, and music should make the atmosphere joyful, and the place should be awash with delicious food and drinks. A brāhmaṇa learned in Atharva veda should perform propitiatory rites twice a day for the good of the mother and child.

When the mother is hungry she should be given meals which should contain one of the four fats mixed with the pippalī group of medications. After the meal, her abdomen should be gently rubbed with ghee or oil and supported by a circular bandage to prevent the accumulation of vāta. When the fatty meal is digested, she should take gruel supplemented by medication. Before both meals she should take a shower with warm water. This daily routine should be maintained for 5-7 days. Any illness during this period is dangerous because the mother's dhātus are depleted and shaken by the demands of fetal growth and the stress of delivery. Special attention should be paid to her meals, daily routine, and medications. One should take particular care to ensure that the vāta is kept pacified since it tends to get disturbed in the immediate post-delivery period.

On the tenth day after delivery, mother and child should take a bath in water treated with sweet-smelling drugs, wear light and clean clothes, put on auspicious, elegant and light ornaments, touch auspicious objects, worship the appropriate deity and receive the benediction of learned brāhmaṇas. The baby should then be brought in a clean cotton cloth with the head directed to the east or north. The father should announce that the baby is prostrating before the gods and brāhmaṇaswhen receiving two names - one after the star under which he was born, and the other for common use. The rules relating to the coining of names should be observed. Following this the child should be carefully examined from head to foot from the point of view of colour, appearance, size, soundness and functions of the body and limbs to estimate lifespan.[10]

BREASTFEEDING

A wet nurse to breast feed the baby should be chosen on the basis of several criteria. These are the same caste and place of birth, freedom from bodily deformities or addictions, youthfulness, good family, cleanliness, skill in management, love for children, incapacity for meanness, good health, not being married to a man of lower caste, having living male children, good breasts and copious milk.

For nursing purposes, a good breast is defined as not too high, nor too long or too bulky, and having nipples which lend themselves to easy suckling. Good milk has normal qualities of colour, taste and smell and dissolves in water. Unhealthy milk has opposite qualities and could trigger doṣa perturbation and several disorders. The woman whose breast milk is unhealthy should be treated with appropriate medications and evacuative measures. To enhance the output of milk, wines except sidhu, marshy and aquatic vegetables, cereals, meat, are beneficial.[11]

THE NURSERY

The nursery should be designed by an expert architect.[12] It should have ample space, good ventilation and lighting, and separate provisions for water storage and pounding grain, urinal, lavatory, bathroom and kitchen. It should look attractive and provide furniture and accessories such as cot, chairs and bedding. It should bar access to animals including rodents. Auspicious and propitiatory rituals should be conducted to sanctify the nursery which should also house elders, a physician and loving friends.

The bed, seat and bedcovers for the child should be soft, light, clean and fragrant. As soon as the clothes are soiled by urine, feces, sweat or by contact with insects they should be replaced. If additional material is not available the same material may be reused after they are cleaned, dried and fumigated. (Fumigation is carried out by exposing them to the smoke of grains, medicinal herbs, cast off skin of snakes and ghee.) The child should wear amulets fashioned with the tip of the right horn of a living rhinoceros, deer or bull or medicinal herb or other articles recommended by brāhmaṇas learned in Atharva veda. The child should also be given a variety of toys: noisy, attractive, light, having no sharp edges, impossible to put into the mouth or prove fatal. One should never throw a child into a fright by talking of demons in an attempt to quieten him or win him over when he cries, refuses to eat or is drawn to someone else. If the baby falls ill she should be carefully examined and treated by the physician. Generally children respond well and durably to mild, sweet, light, fragrant and cold measures; they can also be trained to give up unwholesome habits to obtain strength, a healthy body and normal lifespan.

32 *The Individual and the Cosmos*

Action with desire is the road to sorrow, and its renunciation is the way to happiness.[1]

The individual and the cosmos are a continuum. Whatever exists in the cosmos exists in the individual; reciprocally, whatever constitutes the individual exists in the universe. The constituents which the individual and the cosmos share are countless; at the gross level six constituents make up the individual and the universe. They are the five elements and the formless Brahman, which have their indicators in the human body. Form corresponds to earth, wetness to water, heat to fire, vital breath to air, countless openings to ether, and the inner self to the Self or Brahman. As is the grandeur of Brahman in the cosmos so is that of the inner self in the individual. Just as the splendour of the Brahman is reflected by Prajāpati in the cosmos, it is expressed by the mind in the individual. Furthermore, Indra is represented by ego, Āditya by the process of ādāna, Rudra by anger, Soma by cheerfulness, Vāyu by comfort, the Aśvins by brilliance, the Māruts by zest, the Viśvadevās by sense organs and their objects, darkness by ignorance, light by knowledge, birth of the cosmos by the formation of the embryo, kṛta yuga by childhood, tretā yuga by youth, dvāpara yuga by old age, kali yuga by illness, and the end of creation by death. The analogues of the cosmos can be seen by inference in everything relating to the individual.[2] Indeed, the identification of the individual with the cosmos and, conversely, the cosmos with the individual is what reveals true knowledge. The moment one discovers the cosmos in oneself, one becomes aware that no one but oneself is responsible for joy and sorrow. One may labour and move here and there by the effect of past actions but a person gains freedom only when one discovers universal identity.

The process of identification of the individual and the cosmos serves a purpose. The cosmos as a union of six constituents has a cause, birth, growth, decline and final disintegration which restores things to the original state. The root cause of the universe as well as all the wordly activities and suffering is action with desire; its renunciation puts an end to them at once. Action with desire is the road to sorrow, and its renunciation is the way to happiness. This crucial realisation arises the moment one discovers the identity of the individual and the cosmos. This is indeed the purpose of the identification process.[3]

What is the source of action with desire? What are the means to its renunciation? The sources are

ignorance, craving, aversion and action itself. This triggers a whole series of mental reactions which overwhelm the individual just as a tender plant is smothered by a huge branching tree. The mental reactions include conceit regarding birth, learning, intellect, attachment to worldly actions, false identification of self with the body, feeling of ownership regarding relatives and friends, erroneous suppositions on what is appropriate and what is inappropriate, failure to distinguish source from products, and action leading to attachment from that leading to liberation, and the unthinking practice of various rituals. In contrast, renunciation is the road to freedom, realisation of one's identity with the Brahman, everlasting bliss and eventual liberation.[4]

THE PATH TO LIBERATION

The path is to liberation is long and difficult. What is demanded of the aspirant includes reverence for the preceptor, tending the sacrificial fire, observing religious injunctions and grasping their significance, seeking holy company and keeping away from the mean and the wicked, being truthful, speaking pleasant, true, appropriate and carefully selected words, looking on all creatures as one would look on oneself; avoiding obsession with women; giving up hoarding; remaining satisfied with the loincloth, ochre robe, needle case for stitching the robe, water pot, staff, begging bowl, one meal of wild grains, bed and pillow of dry leaves and grass; wandering as a mendicant and living in a forest, adopting a specific posture for meditation, eschewing too much sleep and indolence, restraining likes and dislikes, and being indifferent to worldly honours and ignominy, changing seasons, emotional opposites and the worry of missing opportunities. One should believe in the practice of yoga which energises the mind, sharpens the intellect, strengthens self-control and the resolve for liberation, and focuses the sense organs in the mind and the mind in the self which merges in the Self. The individual should constantly bear in mind that the constituent and transient structure of the body is a source of suffering, that action with desire signifies sin, and renunciation guarantees liberation and bliss. The yogic practices clean the mind like oil cloth and other accessories clean the mirror and make it sparkle. The purified mind merges into the self and shines with all the doors of the body shut like a fire burning gently, pleasantly and steadily within a lantern.[5]

When one recognises oneself and the cosmos as permeating each other and together being a single entity, one attains everlasting peace based on true knowledge. When a person sees all living beings at all times as identical with Brahman he frees himself from all dualities which are the causes of sorrow. This is liberation which has been extolled by evocative synonyms including, among others, supreme peace, freedom from sins and rajas, greatness, immortality, void, and Brahman.

33 *A Count of Body Parts*

A physician is obliged to count and classify body parts lest he be confounded in his professional work. Viewed from the tiniest dimensions, body parts are countless because of their infinity and minuteness and their being beyond the range of perception. However, enumeration and classification are possible and useful at the gross level.

SKIN - THE BODY FRONTIER[1]

The external boundary of the body is the skin. It has six layers. The most superficial layer is impermeable to water and lets it flow on the surface. The second layer contains blood and the third is the abode of skin colour and the cause of depigmentation. The fourth layer houses ringworm and leprosy and the fifth accounts for boils and abscesses. The sixth layer gives rise to deep-seated abscesses extending to the joints; it may cause loss of consciousness in case of acute injury.

THE PARTS OF THE BODY[2]

The body has two upper extremities, two lower extremities, head and neck, and trunk. These six parts account for fifty-six smaller parts as indicated below:

Calves	(jaṅghāpiṇḍika)	2
Thighs	(ūrupiṇḍika)	2
Buttocks	(sphica)	2
Testicles	(vṛṣaṇa)	2
Penis	(śepha)	1
Axillae	(ukha)	2
Groin	(vañghana)	2
Ischial prominence	(kukundara)	2
Pubis	(bastiśīrṣa)	1
Abdomen	(udara)	1
Breasts	(stana)	2
Arms	(bhuja)	2
Forearms	(bāhupiṇḍika)	2
Chin	(cibuka)	1
Lips	(oṣṭha)	2
Angles of the mouth	(sṛkkanya)	2
Gums	(dantaveṣṭaka)	2
Palate	(thālu)	1
Uvula	(śuṇḍikā)	1
Tonsils	(upajihvikā)	2
Tongue	(gojihvikā)	1
Cheeks	(gaṇḍa)	2
Pinnae	(karṇaśaṣkulikā)	2
Lobe of the ear	(karṇaputraka)	2
Orbit	(akṣikūṭa)	2
Eyelids	(akṣivartma)	4
Pupils of eye	(akṣikanīnikā)	2
Eyebrows	(bhru)	2
Thyroid	(avatu)	1
Hands and feet	(pāṇipāda)	4
	Total	56

There are nine orifices - seven in the head and two below for evacuation and procreation.

BONES[3]

There are 360 bones which are listed below:

Teeth (danta)	**32**
Dental sockets (dantaūlukhalāni)	**32**
Nails (nakha)	**20**
Bones of fingers and toes (pā ṇipādāngulāsthi)	**60**
	20

Bones of palms and feet (pāṇipāda śalāka)	**20**
Bony support to the above (pāṇipāda śalakādhiṣṭa)	**4**
Heel bone (pārṣṇa)	**2**
Ankle bones (gulpha)	**4**
Bones of wrist (maṇika)	**2**
Forearms (aratni)	**4**
Legs (jañgha)	**4**
Knee (jānu)	**2**
Kneecaps (jānukapālikā)	**2**
Thighs (ūrunalaka)	**2**
Arms (bāhunalaka)	**2**
Shoulders (amsa)	**2**
Shoulder blades (amsaphalaka)	**2**
Collar bones (akṣka)	**2**
Xiphisternum (jatru)	**1**
	2

Palate (tāluka)	**2**
Hip bones (śroṇiphalaka)	**2**
Pubis (bhagāsthi)	**1**
Spine (pṛṣṭagathānyasthi)	**45**
Neck (grīva)	**15**
Chest (uras)	**14**
Ribs (both sides) (parśuka)	**24**
Rib sockets (parśukasthalaka)	**24**
Tubercles of ribs (both sides) (sthalakārbuda)	**24**
Mandible (hanu)	**1**
Head of mandible (hanumūlabandhana)	**2**
Nose,zygomaticprocess,forehead(nāsikā,ganḍakūṭa, lalāṭam)	**1**
Temporals (śankha)	**2**
Skull bones (śirakapāla)	**4**
Total	**360**

360

SENSE ORGANS

The senses reside in:	Skin
	Tongue
	Nose
	Eyes
	Ears
The sense organs are:	Gustatory
	Olfactory
Tactile	Visual
	Auditory
The motor organs are:	Feet
	Anus
Hands	Genitals
	Tongue

The heart is the abode of consciousness.

VITAL PRINCIPLES

These are ten in number - the head, neck, heart, navel, anus, urinary bladder, ojas, semen, blood and flesh. Of these, head to bladder constitute vital parts (marmās).

VISCERA[4]

The fifteen visceral organs are navel, heart, lung, liver, spleen, kidneys, urinary bladder, pelvic colon, stomach, jejunum, rectum, anus, small bowel, large bowel, omentum.

Those listed above are only the visible parts. Apart from these there are many 'more parts, many of which can be inferred to be present. A list of what can be inferred follows:

Ligaments (snāyu)	-	900
Veins (sirā)	-	700

Arteries (dhamanī)	-	200
Muscles (peśi)	-	400
Vital organs (marma)	-	107
Joints (sandhi)	-	200

Minute terminations of blood vessels 29956

THE BODY ESSENCES

The essence of various body components can be inferred in terms of weight. The measure employed is 'anjali' which is an adult's handful, weighing 160 grams. There are ten anjalis of fluid in the form of lymph traversing under the skin; it oozes out through wounds and also exits from the body with feces, urine and blood. In hot conditions, the same fluid emerges through hair follicles as sweat. Rasa which is the first dhātu to be processed from food measures nine anjalis, blood eight, feces seven, kapha six, pitta five, urine four, muscle fat three, fat two, bone marrow one, brain, semen and ojas half anjali each.

The nature of the constituent contains clues to its dominance by the elements. Gross, heavy, coarse and hard tissues such as bone and teeth, other tissues including flesh, hair, tendons, and smell and olfactory senses are dominated by the earth. Fluid, flowing, slow, lubricant and soft tissues such as rasa, blood, muscle fat, kapha, pitta, urine and sweat, and taste and gustatory sense are presided over by water. Pitta, heat, light, vision and visual sense are influenced by fire. Breathing, blinking, contraction and relaxation, mobility and immobility, touch and tactile sense are the domain of vāta. Empty spaces, large and small channels, sound and auditory sense are dominated by ether.[5] The drive for action is propelled by intellect, mind and self .[6]

34 *The Spectre of Death*

An individual is a union of the five elements and consciousness. The union is by no means permanent with the spectre of dissolution haunting him forever. This has special significance for the physician who is assailed by uncertainties that involve the individual, his conduct, the disease, outcome of treatment and other known and unknown factors. He is, at the same time, confronted by the anxious patient and the family whose insistent query relates to what would happen to him. A physician is therefore obliged to look for every sign of impending death to forewarn the patient and his family. The signs of impending dissolution would oblige the physician to decide on discontinuing or even abstaining from treatment. The indications, numerous as they are, cover every aspect of the human condition as well as a number of natural phenomena. The physician should not, of course, divulge the news of impending death to the patient unless he insists on it. Even on the patient's insistence, the physician should not part with the information if it is likely to hasten the patient's death or hurt others.[1]

A breakdown in health could occur in three ways. A bodily mark may be present in an individual due to the effect of past deeds; it may remain quiescent, but suddenly explode with the onset of a disorder. Secondly, diseases could overtly strike and disturb his health. Thirdly, health could break down for no apparent reason, and this is the category where a physician should be most concerned with the possibility of death.[2] It must, however, be kept in mind that death may not always follow the appearance of premonitory signs just like a fruit may not always succeed the flower; but death seldom occurs without warning signs.[3]

SIGNS AND SYMPTOMS OF DEATH

For interpreting the signs observed in the patient or in natural phenomena, one should employ the three means of knowledge -(perception, inference and authority) wherever appropriate. The signs, symptoms and various indications of impending death are grouped below.

From observation

1. Discolouration in nails,-eyes, face, urine, feces, hands, feet, lips with diminished strength and sense functions.
2. Sudden change to abnormal colour in a patient going downhill.
3. Sudden change of voice to a feeble, subdued and indistinct variety.[4]
4. Appearance of desirable (of flowers and trees) or undesirable odours suddenly and without apparent cause.

5. Sudden appearance of loathsome or sweet smells in a deteriorating patient, which repel or attract insects.[5]
6. Loss of pulsation of body parts which had pulsations earlier, coldness of parts which were warm, hardness of what was soft, instability of joints, and wasting particularly of muscle and blood.
7. Very deep or very shallow inspiration, absence of pulsation in the neck, teeth displaced and white with concretions, matted eyelashes, sunken, unequal, glassy and permanently open or closed eyes, aberrant vision with the perception of intense and varied colours, discolouration of the abdominal wall, severe pallor or bluish hue of nails, absence of cracking sound when fingers are bent.[6]
8. Mask-like face, fatigue, anxiety, confusion, restlessness, profound weakness, loss of appetite, urticaria, irritability, severe thirst and fainting in patients with insanity.[7]
9. Jaws, neck, eyes, become stiff and the back becomes arched and rigid.[8]

From patient's history

1. Seeing sky as earth, and earth as sky; a net in moving or stagnant water, when there is none; ghosts and apparitions while awake; fire as blue, black, white or dull; clouds and lightning when they are absent; sun and moon as small earthen pots; solar and lunar eclipse when neither is happening; sun in the night and moon during the day; beholding the invisible and failing to see the visible.
2. Hearing sounds when there are none and hearing them distorted; not hearing the crackling of fire when the ear is not plugged with a finger; perceiving good smell as bad and bad as good; not experiencing taste in the absence of oral disease; inverting touch sensations, cold as hot; rough as smooth and soft as hard; having supersensory visions without yogic practice or austerites[9].

Portents of death in various diseases

1. All the prodromal signs and symptoms appearing together in a patient with fever; sexual excess predisposing to phthisis: dreaming of being dragged in the southern direction by dogs, camels or asses; of the sky as a crimson-coloured cloth at close range; of wearing a red garland and red garment over a red body while being pulled away by a woman with terrible laughter; of a creeper growing on the cardiac region during a severe attack of gaseous abdominal lump; of lotus flowers arising from the chest of a naked body bathed in ghee; of offering oblations on an altar without fire, in leprosy when wounds refuse to heal; of drinking fatty beverages with chaṇḍālas and being made captive by them in diabetes; of sinking in water while dancing with demons in insanity; of seeing darkness during the day and hearing non-existent sounds and of being taken away by a ghost while inebriated and dancing in epilepsy; of eating special dietary articles and vomiting identical matter in any disorder. These examples are not exhaustive – there are many more which carry warning signs of death or disaster.[10]

2. Dreams arise from the mind channels when they are filled by the three perturbed doṣas. The disturbed mind drives the sense organs in the subconscious state to produce dreams which may have their roots in visual, auditory or other sensory experiences, ardent wishes, imagination, shape of things to come and doṣas. Of various kinds of dreams, the only type which is predictive is that which keep the subject awake throughout the night after the dream.[11]

When to withhold treatment[12]12

1. Severe pain in the upper chest while speaking, intense thirst, vomiting immediately after eating and rapidly progressing emaciation.
2. Hiccup, and blood and mucus in stools.
3. Debility compounded by diarrhea, constipation and severe thirst.
4. Morning fever, raucous cough, emaciation.
5. Drop of temperature, shortness of breath, scybalous feces and dense urine in abdominal disease.
6. Swelling starting in the abdomen and extending to the extremities.
7. Swelling in the legs including feet and weakness of both legs.
8. Poor complexion and appetite, weakness and swelling which involve hands, feet, genitalia and abdomen.
9. Profuse expectoration of blue or yellow sputum with blood staining.
10. Dense urine, fever and cough, debility, swelling and goose-flesh.
11. Emaciation with the perturbation of all three doṣas.
12. Debility; fever and diarrhea following swelling, or swelling following fever and diarrhea.
13. Pallor, emaciation, severe thirst, abdominal distension and shortness of breath.
14. Lockjaw, severe thirst, debility, movement of breathing confined to the chest.
15. Fainting with unrelieved convulsions, severe weakness and emaciation.
16. Diseases with obscure origin which worsen rapidly in spite of treatment.
17. Abrupt loss of strength and comprehension; onset of poor digestion, pallor and muscle weakness.
18. Pupils and eyes receiving images, but with no vision.[13]
19. Deformity of body parts in the shadow cast in sunlight, moonlight, water or mirror. Even if the deformed reflection belongs to a healthy-looking person he should be regarded as a ghost. The reflected image (praticchāya) is different from the real image (chāyā) which has to do with complexion, light and the five elements. There are five types of real images corresponding to the five elements.[14]
20. Jaundice, swelling of the face with depressed temples, high fever, emaciation and fright.[15]
21. Fainting while being lifted.
22. Overactivity of the gut in the upward and downward direction with abdominal disorder.
23. Emaciation in a disease associated with poor food intake, polyuria and bulky stools; alternatively, eating too much with scanty urine and feces.
24. Eating nutritive food but steadily losing strength and colour.

25. Rapid breathing with cooing sound, diarrhea, severe weakness and thirst.
26. Shallow breathing and random twitching all over the body.
27. Failure of respiration, copious mucus in the air tract, loss of colour and strength.
28. Slanting of eyes, twitchings in the neck, debility and thirst.
29. Prominent cheek bones due to sunken cheek, high fever and cough, abdominal colic and distaste for food.
30. Rotary movement of head, tongue and mouth, drooping eyebrows, thorny tongue.
31. Tiny penis and bulky testicles.
32. Severe emaciation, refusal to eat.
33. Projecting a shadow which is bizarre such as headless or crooked.[16]
34. Glued eyelashes, blocked vision.
35. Lips being too swollen to meet appropriately, phthisis, oily and expression-less eyes.
36. Sudden appearance of wrinkles and whirls on eyebrows and head.
37. Hair appearing oily without the application of oil.
38. Loss of weight which greatly highlights the nasal prominence which is in fact not enlarged.
39. Nostrils being too large or too small with twisted appearance of the nose.
40. Face, ears and lips turning white, blackish or red, or lips becoming blue.
41. Tongue being rigid, heavy, numb, blackish and swollen.
42. Deep inspiration, shallow expiration with loss of consciousness.
43. Hands, feet, neck and palate becoming cold and hard.
44. Purposeless movements of legs and striking the cot with legs.
45. Grinding teeth during waking, loss of pain, weeping and laughing without reason.
46. Dislike for all things liked earlier.
47. Neck being unable to support head; back being unable to support the body; jaw being unable to support a mouthful of food.
48. Eyes taking on a blackish or greenish hue or losing vision.[17]
49. Becoming comatose from diseases with dry mouth.
50. Seeing things in green colour in pittaja disorders.
51. Pain between scapulas, hiccup, cough with blood in sputum, chest pain and constipation in patient with phthisis.
52. Emaciation with depletion of muscle and blood in various diseases like epilepsy, leprosy or phthisis.
53. Thirst and abdominal distension following purgation for constipation.
54. Inability to drink in spite of severely dry throat, mouth and chest.
55. Debility, poor complexion and faltering voice for no apparent cause.
56. Respiratory distress, drop in body temperature, pain in the groins which resist treatment.
57. Speaking in low voice about one's own death and hearing abnormal voices.
58. Sudden remission of diseases with crisis in a debilitated patient.
59. Failure to improve in severe illness after a month of nutritive diet and meat soup when evacuative treatment is inadvisable.

60. Sputum, feces and semen sinking in water.
61. Disturbed pitta following the trail of body heat and reaching the temporal region to cause a condition called samkhaka.
62. Frequent cough with bloody sputum and abdominal pain.
63. Severe emaciation, worsening of underlying disease and loss of appetite.

A physician should look out for these signs mindful, at the same time, that they need not necessarily precede death.

SUDDEN DEATH[18]

Signs of impending, sudden death are manifestations of severely disturbed vāta which may affect any part of the body. They include:

1. Stone-like, massive enlargement over the cardiac region with severe thirst.
2. Breakdown of calves with twisted appearance of nose.
3. Disease with hiccup, sagging eyebrows and severe burning within.
4. Emaciation with depletion of muscle and blood, and vāta moving to both sides of the neck.
5. Sudden migration of vāta from the rectum to the navel in a very sick patient.
6. Cold, sweat, dilated pupils while the ends of ribs are gripped by perturbed vāta.
7. Vāta gripping the heart and rectum in a weak patient.
8. Vāta gripping the groins and rectum and producing difficulty in breathing.
9. Sudden, sharp pain in the navel, top of the urinary bladder withdisturbed output of urine and stools.
10. Tearing pain in groins with diarrhea and thirst.
11. Vāta running over the whole body with diarrhea and thirst - body could be subject to swelling.
12. Sharp, cutting pain in the stomach with diarrhea and thirst.
13. Sharp, cutting pain in the intestine with thirst and intense anorectal pain.
14. Intestinal vāta producing coma and stertorous breathing.
15. Teeth stained with muddy deposit, face with powdery material, and cold and clammy body.
16. Appearance of thirst, shortness of breath, headache, fainting, weakness, stertor and diarrhea in a sick patient.
17. Lack of body fire, poor mental concentration, dull appearance, unstable mind and fidgetiness.[19]
18. Offerings to the manes rejected by crows, failure to witness the star Arundhatī, and the gain or loss of looks, body mass and wealth.
19. Loss of adaptability, good conduct, memory, renunciation, intellect and strength.
20. Appearance of a lovely, roseate network of blood vessels or semilunar wrinkles on the forehead.
21. Tremors, fainting, movements and speech of the insane.
22. Wasting or swelling of the upper and lower limbs and face with sparing of the trunk.
23. Appearance of eruptions like pearls on the body with quick disappearance.

24. Severe pain in the neck, inflammation of mouth including tongue, throat and groin.
25. Dizziness, delirium and severe bone pain.
26. Pulling out one's hair and severe weakness in spite of eating normally.
27. Searching for one's own fingers and hand, smiling irrationally, looking without blinking, searching for things which do not exist on the bed.
28. Confusion, loud and misplaced laughter, licking of lips, failure to recognise relatives and attendants.
29. Aversion towards physicians, food, medication, teacher and friends.
30. A deposit resembling cowdung powder appearing on the head and disappearing on applying oil.[20]
31. Running all around with drooping shoulders and rubbing legs.
32. Chest becoming dry while the rest of the body remains moist after bath and application of sandal paste.
33. A physician's attempt to arrange for appropriate treatment or a well-tried, reputed cure fails to work.

The medical quartet in possession of all the desirable properties is impotent when the patient has reached the limit of his life span.

The prognostic role of a messenger

A messenger who brings news to the physician could bode ill or well for the patient.[21] The appearance, mode and circumstances of arrival and other factors may carry negative or positive significance for the patient's outcome. The following indicators signify imminent death of the patient.

1. Messengers who are
    - Naked with ruffled hair, in tears or indifferent.
    - Anxious, scared, filthy or deformed
    - Three in number
    - Eunuch or ill or diseased in limb
    - Brought by a cart drawn by an ass or camel
    - Touched by inauspicious things prior to meeting the physician.
2. A messenger arrives when the physician is
    - Sleeping, or cutting or breaking something
    - Making offerings to the sacrificial fire
    - Speaking or thinking about inauspicious things or the dead, burnt or lost.
    - Made aware that the qualities of the place and time of arrival coincide with those of the disease.
3. If the physician sees, hears, smells, touches or tastes inauspicious things before, during or after receiving the messenger.
4. The following signs and circumstances of messengers bode well for the patients.
    - Good conduct, cheerful, dressed in white.

- No deformities, head unshaved, hair not matted.
- Similarity in birth and profession.
- Not travelling in carts drawn by an ass or camel.
- Not arriving in early morning or evening or inauspicious times of the day, night or month, or during eclipses.

PROGNOSTIC ROLE OF A HOUSE CALL AND THE PATIENT"s HOME ENVIRONMENT

On a house call to see a patient, a physician may encounter many things on the way and witness many things in the house.[22] What is seen and heard by the physician may turn out to be inauspicious or auspicious for the patient.

Inauspicious signs on the road: A brief list would include sneezing, crying, slipping, falling, shouting, beating; slippage of clothes, turban, upper garment, umbrella, sandals; seeing people in mourning, or falling down from a sacred tree or flagpole; hearing discussion about death; defilement by dust or ashes; crossing of the road by cats, snakes or dogs; hearing shrieks of wild animals and birds from the southern direction and seeing cot, carts and chairs lying about.

Inauspicious signs in the house: Running short of fuel pots, fire, gems, food, deities; seeing seed, fruits, ghee, bull, brāhmaṇas, lamps broken or without flame; family members using things which are cut, broken or split; patient's bed, clothes, movement, cart, eating style that are inauspicious; relatives handling patient's belongings as if they belong to the dead; while the patient's food is being cooked, the fire goes out without wind when firewood is sufficient; frequent fall and breakage of earthern pots.

Auspicious signs on the road: Curd, barley, brāhmaṇas, bulls, king, gems, a full pot, a white horse, flagpole or flag of temples, fruits, earthen tray in the hands of boys or girls, a tied animal, ploughed land, burning fire, offerings of sweet balls and flowers, sandal, delicious food, a cart with human beings, milch cow, various flora and fauna, ghee, mirror, devotional songs and chanting of hymns, favourable wind *etc.*

Auspicious signs in the patient's house: Good, deferential and favourable conduct of patient and kin; materials in plenty; wealth; joy; easy acquisition of needed substances; success on the use of drugs; dreams of climbing up on to a house or palace, riding elephants, horses, bull or men; of beholding moon, sun, fire and brāhmaṇas, lactating cows and women; and of talking with gratified gods and ancestors; seeing white clothes; receiving meat, poison, unclean objects, travelling in a horse-or bullock-driven cart; journey to the east or north; white flowers *etc.*

For attaining success and a good reputation in practice a physician should bear in mind the signs of death.

35 *Rejuvenant Therapy (Rasāyana)*

CELESTIAL ORIGIN

Away from the evergreen hermitage in the hills and living for long periods of time on the food and medications of the plains, even saints, holy men and mendicants found themselves obese, inactive and infirm. They promptly retraced their steps to the Himālayas which is the abode of the gods, the source of the river Gaṅgā, the home of medicinal plants and precious stones, of marvellous power, and the centre of many excellences. The group included greatly revered sages including Bhrgu, Aṅgiras, Atri, Vasiṣṭha, Kāśyapa, Agastya, Pulastya, Vāmadeva, Asita and Gautama. It was to them that Indra imparted the immortal science of ayurveda and commended the use of rejuvenant therapy (rasāyana) which ensures prolonged lifespan, youthmlness, good health, fine voice and complexion, stoutness, intellect, power of retention and strength.[1] Indra himself prescribed two rasāyanas composed of herbs growing in the holy Himālayas. They are given below:

Table 35.1[23]

Formulations	Actions	Remarks
Aindri, brāhmī etc., ending in mahāmedā (Indra-prescribed rasāyana 1)[2]	Promotes lifespan, youth, freedom from illness, voice, intellect, strength etc.	Himalayan herbs taken with milk for six months.
Ten herbs of strengthening (balya), vivifying (jīvanīya), bulk-enhancing (brmhaṇīya) and age-stabilising (vayasthāpanīya) categories, khadira, bījaka etc., ending in tiniṣa[3] (Indra-prescribed rasāyana 2)	Relieves all ailments; improves strength, memory, energy, colour and voice; counters poisons.	Juice of all herbs, alkali of palāṣa, cow's milk, sesame oil and ghee cooked as per directions and processed further with āmalaka juice, pippalī, metallic powders

Rejuvenation is more than the administration of plant extracts and their formulations. Truthfulness, freedom from anger, lust and addictions, amiable speech, cleanliness, charity, worship of gods, cow, brāhmaṇas, preceptor and elders, love and fellow-feeling, constant vigilance, self-control, reverence for scriptures and turning the senses toward spirituality constitute the everlasting rasāyana. Indeed, one seldom reaps the full benefits of rejuvenation unless the body and mind are clean and the person has gained self-control. The knowledge of rejuvenation is not to be used for degenerates, those with no ailments, those who are not twice born and those who are disinterested.

Aśvins - the divine physicians - are credited with legendary skills such as reattaching a head severed during a sacrifice, fixing fallen teeth and ruined eyes and restoring spastic arms. No wonder they are adored by the gods including Indra. Similarly, the physician wins the respect of humans whose illness and suffering he relieves. Indeed he is thrice born, the completion of the physician's training signifying his third birth.[4] Contract or not, if a patient who received treatment fails to make any offering to the physician, he is guilty of not discharging a debt. The physician, on the other hand, is obliged to treat all his patients as his own children, safeguard them from harm and wish them godspeed on the righteous path. The sages who bequeathed āyurveda were moved by the call of dharma and compassion towards living beings, and not by wealth or pleasure. The physician who offers treatment for the good of patients and not for wealth or enjoyment excels whereas another who trades in the patient's treatment is condemned to the choice of preferring dust to gold. There is no altruism higher than medicine which saves the life of a patient, and no benefaction greater than the gift of life.[5]

TWO REGIMENS

There are two regimens for the administration of rejuvenant therapy -intramural and extramural. The intramural method is suitable for healthy, self-controlled, wise, strong and affluent persons whereas extramural method is advisable for others.

INTRAMURAL THERAPY

A special home for treatment is constructed on an auspicious land facing the east or north in a place where the king, physicians and saints live. It should be safe and supplied with all the necessary articles for treatment. It should have adequate space and height, thick walls, a small opening, and three concentric chambers located one inside the other. It should be designed for comfort in all seasons and should keep out unwanted noise and temptations. Medications, accessories and brāhmaṇas should be readily available and a physician should be in constant attendance.

The procedure is started on an auspicious date in the bright fortnight during the northward course of the sun (uttarāyaṇa). The patient, tonsured and having offered obeisance to the gods and brāhmanas and having been purified by evacuative measures, should enter the hut taking care to keep the cow and brāhmaṇas to his right during entry. His attitude should be one of self-control, faith and fellow-feeling for all creatures. Only when the course of evacuative therapy is completed should the proper rasāyana be given to suit his age and physical characteristics.[6]

EXTRAMURAL THERAPY - USE OF FORMULATIONS

Among the medicinal plants for making rasāyanas, harītakī and āmalakī claim preeminence. Harītakī has five rasas - it lacks only the salty rasa. It is hot and has numerous beneficial effects. It promotes

good digestion, youthfulness and strength of sense organs. Apart from being an excellent tonic, it plays a favourable role in the treatment of a variety of illnesses including leprosy, phthisis, gaseous lumps of the abdomen, pallor, piles, heart disease, chronic fever, loss of appetite and diarrhea, constipation, jaundice, helminthiasis, asthma and cough, impotence, obstruction of body channels and lapse of memory, āmalakī has similar effects except that it it is also cold. Fruits of the plants should be collected from the Himalayas when they are matured in the fullness of time, and nourished by sunlight and shade, air and water. They should be wholesome, uninjured and uncontaminated by poisons. The important rasāyana formulations prepared with harītakī and āmalakī are the following:

Table 35.2[789101112]

Formulations	Actions	Remarks
Five root pentads i.e.: śālaparṇī, bṛhatī etc.; bilva, agnimanthā etc.; punarnavā, mudgaparṇī jīvaka, ṛṣabhaka etc.; śara, ikṣu etc (Braḥma rasāyana 1)[7]	Greatly enhances lifespan, youth	The root pentads boiled in water and concentrated; mixed with ground fruits etc.; of harītakī and āmalakī and processed with other herbs such as maṇḍūkaparnī and pippalī as per directions
Āmalakī fruits, śālaparṇi etc., ending in yūthikā. (Braḥma rasāyana 2)[8]	Gives long life, freedom from illness, strength, courage; counters poisons.	Āmalakī powder in āmalakī juice mixed with powdered herbs in the list. Further processing with nāgabala juice, ghee, honey and metallic powder as directed.
Bilva, agnimanthā śyonāka etc., ending in kākanāśa, āmalakī fruits (cyavana prāśa)[9]	Even the old gain memory, freedom from diseases, long life, sexual power, digestion	Decoction of herbs cooked with āmalakī fruits fried in sesame oil, ghee, honey
Fruits of āmalaka, harītakī, bibhītaka (Āmalakī rasāyana)[10]	Regaining youth, freedom from illness, strength, intellectual ability	Different combinations of the three fruits wrapped in palāśa bark, covered with mud and baked. It is then powdered and taken with curd, ghee etc., as per directions
Harītakī, āmalaka bibhītaka etc., ending in kṣīravidārī (harītakī formulation)[11]	Relieves fear of ageing, diseases; gives strength, intellect and full lifespan	Decoction of herbs mixed with vidārī juice, milk and ghee and cooked
Harītakī, āmalaka bibhītaka, ending in kaṭphala (ghṛta formulation)[12]	Achieves a lifespan of hundred years, knowledge, freedom from diseases	Ghee cooked with the herbs and mixed with honey, āmalaka powder, iron powder etc., as per direction; to be used for 3 years

Rasāyana therapy is to the humans as ambrosia was to the gods who attained immortality. Those taking the six rasāyana formulations mentioned above according to prescribed rules not only live a long and healthy life but also attain the noble status of sages.

MORE RASĀYANA FORMULATIONS

Ailments can be traced to unwholesome or wrong food habits, and the failure to observe a code of daily conduct. As a result, muscles, joints, blood, fat, marrow, semen and ojas are impaired in varying degrees with the onset of illnesses, deterioration of mental function and diminution of lifespan. The answer lies in one's adherence to a healthful diet and the observance of a code of proper conduct, which make him eligible for rejuvenant therapy.[13] There are many single-drug rasāyanas with specific rules of administration and multi-drug formulations which promote health, long life, virility and strength. Some of these are listed in Table 35.3:

Table 35.3[14][15][16][17][18][19][20][21][22]

Formulations	Actions	Remarks
Āmalakī fruits, vidārī, jīvantī, śatāvarī, punarnavā (āmalaka ghṛta)[14]	Promotes long life, strength, complexion, intellect, fertility, gives a booming voice.	Processed as per directions, cooked in ghee and mixed with sugar and honey
Āmalakī fruits, pippalī (āmalakāvaleha type 1)[15]	Life up to a hundred years in good health	Processed as per directions and mixed with honey and ghee
Āmalakī fruits, pippalī (āmalaka cūrṇa)[16]	Life up to a hundred years in good health	Processed as per directions, sugar and ghee added and preserved

Viḍaṅga, pippalī fruits (viḍaṅgāvaleha)[17]	Life up to a hundred years in good health	Powdered and with honey, ghee and oil; and preserved
Āmalakī fruits, pippalī, viḍaṅga (āmalakāvaleha type 2)[18]	Life up to a hundred years in good health	Amalaki fruits baked,powdered; processed with other ingredients; mixed with oil, honey and ghee
Nāgabala roots collected in late winter (nāgabala rasāyana)[19]	Life up to a hundred years in good health	Carefully collected; bark finely ground and taken with milk, honey and ghee
Fruits of bhallātaka collected in late summer; stored for four months (bhallātaka kṣīra)[20]	Life up to a hundred years in good health	Crushed and boiled in water; concentrated; filtered and taken with milk
Fruits of bhallātaka (bhallātaka kṣaudra)[21]	Life up to a hundred years in good health	Crushed and boiled in a pitcher buried underground up to its neck; consumed with honey and ghee
Oil of bhallātaka, madhuka (bhallātaka taila)[22]	Life up to a hundred years in good health	Oil cooked with milk and paste of madhuka; process repeated 100 times

Bhallātaka is used in ten different formulations. Although the fruits are irritant and inflammatory, they become highly beneficial when used as formulations and are especially useful for kapha and obstructive conditions. The rasāyanas mentioned in this section are advised for those who seek long life, strength and happiness.

Rasāyana formulations reinforced with metals

Some rasāyana formulations reinforced with metals are given in Table 35.4.

Table 35.4[232425262728293031323 3]

Formulations	Actions	Remarks
Fruits of āmalakī; drugs of bulk promoting, life-promoting etc; groups, core of sandalwood, aguru etc; ending in vidaṅga (āmalakāyasam brāhmarasāyanam)[23]	Extraordinary powers to lengthen lifespan, enhance intellect and retard senility	Elaborately processed as per directions; stored in an iron vessel with fine powder of iron
Āmalakī fruits (kevalāmalaka rasāyana)[24]	Extraordinary powers to lengthen life to even thousand years	Collection and eating subject to numerous conditions and rituals
Red hot iron leaves dipped in decoction of iṅgudī, triphala palāśa, āmalakī juice. (lauhādi rasāyana)[25]	Promotes great strength, scholarship, eloquence	Processed as per directions and powdered: mixed with honey and ghee and preserved for a year. Gold and silver are also used
Aindri, matsyākhyaka etc., ending in śankhapuṣpī. (aindra rasāyana)[26]	Promotes strength, long life, intellect; relieves many ailments	Processed, and gold added as per direction; consumed with honey and ghee.
Maṇḍūkaparṇi, yaṣṭimadhu, guḍūcī, śankhapuṣpī (medhyarasāyana)[27]	Promotes life, strength, intellect, voice; relieves many ailments. Śankhapuṣpī especially improves intellect	Juices and powder of drugs mixed.

Pippalī (pippalī rasāyana)[28]	Relieves cough, wasting, piles, abdominal lumps, swelling	Prepared in different ways; consumed with honey
Pippalī (pippalī vardhamāna rasāyana)[29]	Promotes bulk; improves voice; prolongs life; strengthens intellect, relieves splenic enlargement	Pippali fruits consumed in a course of graduated increase and decrease as per directions
Harītakī, bibhītaka, āmalakī (triphala rasāyana type 1)[30]	Promotes life up to a hundred years without senility	Dosage and administration as per directions
Paste of triphalā (triphalā rasāyana type 2)[31]	Promotes life up to a hundred years without senility	Processed on an iron plate. Consumed with fat for a year
Triphalā, madhuka, tugākṣīrī and pippalī (triphalā rasāyana type 3)[32]	Promotes life up to a hundred years without senility	Consumed with honey and ghee
Triphalā along with six metals and vacā, or with viḍaṅga and pippalī, or with lavaṇa, (triphalā rasāyana type 4)[33]	Improves lifespan, intellect, strength; prevents senility	Consumed with honey and for ghee a year

ŚILAJĀTU RASĀYANA[34]

śilajātu is obtained from the ores of gold, silver, copper, and iron. The last type is the best even though all are applicable in all conditions. Their properties vary and their administration should be accompanied by a dietary regimen. Apart from the general rejuvenating action, śilajātus are effective in settling vāta-pitta, kapha-pitta and kapha disturbances. There is in fact no disease which cannot be brought under control by śilajātus.

36 *Virile Therapy (Vājīkaraṇa)*

Some men are physically big and strong but are sexually weak and father few children. At the other end, there are frail and even sickly men who are sexually vigorous and produce many children. Some have sexual relations as often as the sparrows while others have infrequent, but heightened intercourse like an elephant. Amidst this diversity, men may be classified into four groups in terms of sexual potency: 1) strong seasonally, 2) acquiring strength by practice, 3) acquiring strength by other means including virile therapy, 4) strong as bulls by nature.[1]

A man is sexually drawn to a woman necessarily by the effect of aphrodisiac drugs which are sweet, lubricant, vivifying, augmenting, heavy and enlivening; by one's own libido; and above all, by the splendid qualities of the woman. Like a bud which acquires fragrance in full bloom, semen takes time to acquire all its qualities. Therefore, a man before 16 and after 70 should refrain from sexual activity in the interest of his own health and wellbeing. The output of semen is reduced by a variety of circumstances such as anxiety, illness, evacuative therapy, fasting and sexual excesses, whereas potency, even for a contented person, may be impaired by fear, sorrow, discovery of faults in the woman, lack of confidence, ignorance about sexual intercourse and feeble interest. Virile therapy is designed to raise and sustain the potency of the man to the level of a horse.[2]

AIDS FOR VIRILE THERAPY

It is reasonable for a man to use sexual stimulants or aphrodisiacs which form the anchor of virile therapy. They enhance not only his pleasure, goodness and affluence but also his procreative ability for a son. The best sexual stimulant of all is a merry woman who is pretty, young, compliant and blessed with auspicious signs on her body. Her body is the exquisite abode of favourite sense objects and the instrument for raising progeny.[3] The attractive qualities of a woman are enhanced when she meets a suitable mate who becomes a willing captive of her youth, good looks, voice and loving gestures. She enters so deeply into his mind that her very company becomes a celebration for his heart and separation from her a torture. Sexual contact with her is always novel and he never tires of it - such is her power for sexual stimulation. A healthy man eager for offspring should approach a non-consanguineous woman with all the desirable qualities when she has finished her cleansing bath after menstrual periods.[4] One's children are extensions of oneself-many forms, many faces, and many selves. A man with children is like a ramifying tree, who portends auspiciousness and strength. The pursuit of happiness, living, growth of one's clan, renown, material achievements and serenity depend on one's children. Those who seek offspring and sexual pleasure should therefore use sexual stimulants regularly. Several such formulations are listed below: **Table 36.1**[5][6]

Formulations	Action	Remarks
Roots of śāra, ikṣu kāṇḍekṣu etc., ending in punarnavā; madhuka, drākṣa etc., ending in śatāvarī (bṛmhanī guṭikā)[5]	Enhances bulk, strength and sexual power	First group cooked in water and concentrated; mixed with the paste of the second group and processed further with other drugs and honey
Blackgram, seeds of jīvaka, kapikacchu etc., ending in aśvagandhā (vājīkaraṇa ghṛta)[6]	Improves erectile strength	Decoction mixed with cow's milk, juice of vidārī and ikṣu and cooked; honey, pippalī etc; added

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Blackgram, vamśalocana (vājīkaraṇa piṇḍarasa)[7]	Promotes strength, erectile performance	Cooked with blackgram, milk, ghee and wheat flour; mixed with cock's meat soup and solidified
Goat's testicles, buffalo's meat soup, sour fruit, coriander, ginger etc (vṛsyamāhiṣarasa)[8]	Excellent aphrodisiac, promotes strength and bulk	Cooked and consumed as soup
Meat of partridge, cock, peacock (vṛṣyarasa)[9]	Promotes strength	Cooked in the form of soup with ghee; sour or sweet supplements may be added to suit taste
Meat of sparrow (vṛṣyamāmsa)[10]	Prolongs erection and prevents nocturnal emission	Plenty of milk to be consumed after eating the meat
Ṣāṣṭika rice, blackgram soup (vṛṣyamāmsayoga)[11]	Heightens libido all night	Plenty of milk to be consumed following a meal of rice and soup
Cock's meat, crocodile semen (kukkuṭa māmsa prayoga)[12]	Gives nightlong erection	To be eaten well
Eggs of fish, swan, peahen, hen (vṛṣyoṇḍarasa)[13]	Aphrodisiac	Juice extracted from eggs and fried in ghee
Ṣāṣṭika rice, kapikacchu seeds; decoction of balā, mudgaparṇī, māṣaparṇī etc., ending in kharjūra (ṣaṣṭikādi guṭika)[14]	Enhances fertility and erectile function of even old men	Processed in several stages with herbal drugs and other ingredients; honey and sugar added
Semen of sparrows, fat of sparrow, ṣāṣṭika rice and wheat flour; pūpalikā,	Dramatically improves erectile	Processed in stages as per directions

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śaṣkuli, vārtika etc., ending in dhānā (vṛṣyapūpalikādi)[15]	performance	
Seeds of kapikacchu, blackgram, kharjūra etc., ending in mṛdvīka (apathyakara svarasa)[16]	Makes even an old man potent and fertile	Boiled in milk and water and concentrated; sugar, vamśalocana and ghee added; consumed with honey
Top of kharjūra plant, blackgram, payasyā etc., ending in seeds of kapikacchu (vṛṣyakṣīram)[17]	Aphrodisiac	Boiled in water and concentrated; milk added and cooked further. Eaten with ṣāṣṭika rice, ghee and sugar
Jīvaka, ṛṣabhaka, meda etc; ending in vidārī (vṛṣyaghṛtam)[18]	Excellent aphrodisiac: improves colour and voice	Cooked in fresh ghee, water and milk and concentrated; mixed with sugar and honey and eaten with ṣāṣṭika rice
Top layer of curd (dadhisāra prayoga)[19]	Improves complexion, strength and sexual vigour	Sugar, honey, marica, vamṣalocana and small cardamom added;eaten with ṣāṣṭika rice
Cooked ṣāṣṭikā rice[20]	Aphrodisiac	Eaten with ghee, sugar, milk and honey
Eggs of crocodile, hen fried in ghee (vṛṣyapūpalikā)[21]	Dramatically improves erection and semen output	Mixed with ṣāṣṭika rice powder; processed with fresh ghee; eaten with rice followed by wine
Cow's milk[22]	Aphrodisiac	Cows with specific physical marks chosen and fed on specific items: milk taken with honey, sugar etc.

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Medā, payasyā etc., ending in ṣāṣṭika[23]	Makes even a 70-year-old fertile and potent	Boiled in milk and concentrated; eaten with honey, ghee and sugar
Cow's milk[24]	Increases fertility	Milk of specially chosen and fed cows boiled with a gold ring: sugar, honey added
Pippalī fruits (vṛṣya pippalī yoga)[25]	Ensures powerful erection and prevents nocturnal emission	Fried in oil and ghee; mixed with sugar and honey and further treated with milk. Given on a diet of ṣāṣṭika rice
Milk, ṣāṣṭika rice, blackgram (vṛsyapāyasa yoga)[26]	Aphrodisiac	Cooked together and processed further with gokṣurā, vidārī and ghee
Dry fruits which are vitalising (jīvanīya), seeds of kapikacchu, blackgram etc., ending in rice powder (vṛṣya pūpalikā)[27]	Imparts potency to men with several women sexual partners	Powdered and processed in stages as per directions; mixed with milk
Śatāvarī (śatāvarī ghṛta)[28]	Strong aphrodisiac	Ghee processed with śatāvarī and milk; sugar, pippalī and honey added
Madhuka (vṛṣya madhuka yoga)[29]	Promotes unceasing libido	Powder mixed with ghee, honey and milk
Pork ground with rock salt and pepper; cooked in cock meat soup, ghee, curd (vṛṣyamāmsa guṭikā)[30]	Semen becomes plentiful	

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Buffalo's meat soup with ghee, curd, pomegranate seeds, germinated blackgram etc. (vṛṣyamāhiṣa rasa)[31]	Semen becomes plentiful	
Fresh śapharī fish fried in ghee[32]	Copious semen	
Fish meat, asafoetida, rock salt, coriandar, wheat flour cooked in ghee (vṛṣyapūpalikā)[33]	Promotes bulk, strength, semen output	
Blackgram flour, kapikacchu seeds, wheat (māṣapūpalika)[34]	Provides excellent sexual power	Cooked in ghee with sugar, vidārī, ikṣuraka etc.
Powders of vidārī, pippalī, vamśalocana fresh ghee, sugar[35]	Promotes strength, virility	Mixed and kept in earthen vessel
Śatāvarī, vidārī, māṣa etc. (apathyakara ghṛta)[36]	Promotes strength, virility and fertility	Decoctions prepared of each; cooked together with ghee; sugar and honey added
Sugar candy, fresh ghee, honey (vṛṣyotkārikā)[37]	Elephantine erection	Boiled in water; wheat flour added and made into a thick paste

CONCLUSION

Libido and sexual potency are not the products of virile therapy alone. A youthful person without fear and illness, who eats agreeable food like ghee and milk and regularly sleeps with a woman remains sexually potent. His sexual power is enhanced by having friends in whom he can confide, by martial ability, achievements, noble family, good conduct and a sweet-spoken woman of responsive nature. Anointing, massage, bath, perfumes, garlands, embellishments, comfortable house and bed, good clothes, bird song, jingling of women's ornaments - all these are sexual stimulants. Nature also sets the stage for sexual activity and celebration by releasing bees drunk with honey from lotuses and the fragrance of jasmine and water lily; by featuring mountains reaching to the blue sky, rivers with the foam of eddies, moonlit nights, gentle breeze laden with the scent of flowers and cool habitations. Nature's seduction is brought to life by many pleasant accessories including saffron and aguru paste, good food and drinks, the sound of music, a sense of accomplishment and self-esteem, youth and the excitement of the moment.

37 *Fevers (Jvara)*

Fevers result from manifold causes. Causes in turn, figure so often in the discussion on fevers and other manifestations of disease that they have several synonyms such as hetu, nimitta, āyatana, kāraṇa and so on. The synonyms could possibly signify nuance in causation. All causes however fit into three broad groups which are the inappropriate connection of sense organs with their objects, imprudent conduct and the influence of time as reflected in the seasonal changes of nature and the bodily changes of man. From the threefold causes arise somatic and psychological diseases, which however differ in their mechanisms. Somatic diseases manifest as pittaja, kaphaja or vātaja on the basis of which doṣa is perturbed; psychological disorders, on the other hand, are tāmasic or rājasic.

Diseases, like causes, have a number of synonyms such as vyādhī, āmaya, gada, ātaṅka, yakṣma, jwara and vikāra. For the purpose of study, diseases are considered under different stages of their evolution. These are causation (nidāna), premonitory signs (pūṛvarūpa), signs and symptoms (liṅga), therapeutic evaluation including therapeutic trial (upaśaya) and the full-blown stage (samprāpti). The full-blown stage of a disease has many features which determine diagnosis and treatment. There are several classifications of fever: which doṣa is maximally or minimally disturbed, whether the cause is innate (from disturbed doṣas) or from external factors (such as seasonal change or injury by animals), whether it is mild or severe, curable or incurable, the relative contribution of disturbed doṣas in the disease, and the time of its aggravation in terms of season, day or night and before or after food.[1]

CAUSATION[2]

Fever is one of the earliest manifestations of diseases affecting the body. It may be the outcome of perturbation of doṣas (vāta, pitta, kapha, vāta-pitta, vāta-kapha or vāta-pitta-kapha). Alternatively, it could be the result of external causes. When doṣas are responsible for fever, a common mechanism seems to operate. For example, vāta is perturbed by the excessive use of rough, light, and cold substances, too much of evacuative therapy or venesection, by physical activity, suppression of natural urges; sleep, fasting, injury and sexual intercourse. Even atypical postures can provoke vāta. The perturbed vāta enters the stomach and imbibes the heat being produced during the digestion of food and the formation of chyle. Thereupon, the perturbed vāta not only blocks the channels transporting chyle and sweat but also transfers heat all over the body. This gives rise to varied signs and symptoms such as fever of uncertain onset and remission, irregular fever, fluctuation in the level of fever, onset and aggravation coinciding with the end of digestion, day, night or summer, congestion and redness in nails, eyes, face, skin and urine, migrating pains in the body, cramps in the calf, weakness in the thighs and joints, pulling and pressing pain in the waist, chest, sides, shoulder and arms, ringing in the ear and dysfunction of jaws, sharp pain in the temples, astringent taste or dryness

in the mouth, nausea, dry cough, aversion to food, shivering and chattering of teeth, giddiness and delirium, exhaustion, goose-flesh, thirst and the urge to eat hot things.

Pittaja fever arises from the inordinate use of hot, sour, salty, and caustic substances, irregular meals or eating full meals during indigestion, exposure to severe heat, exhaustion and rage. The disturbed pitta follows a pathway similar to vāta and absorbs the heat from the newly formed chyle in the stomach. The heat-laden pitta blocks the channels which transport chyle and sweat and distributes heat all over the body with the resultant manifestations of pain and fever. The signs and symptoms of pittaja fever are characteristic; its onset and aggravation occur halfway through the digestion of food, and at noon, midnight or autumn. The patient experiences hot taste in the mouth, thirst, giddiness, fainting and loss of appetite. The nose, mouth, throat, lips and palate appear inflamed. The patient may develop vomiting or diarrhea, red rashes over the body, and green or yellow discolouration of skin, nails, eyes, mouth, urine and stools. High fever with severe burning sensation may occur and the patient may typically demand cold substances.

Unlike vāta and pitta, kapha undergoes vitiation by the excessive consumption of fatty, heavy, sweet, slimy, cold, sour or salty substances, sleep during the day, lack of physical activity and jubilation. The disturbed kapha also follows a similar pathway to the other two doṣas and enters the stomach where it mops up the heat from the newly formed chyle. The unbalanced kapha obstructs the channels of chyle and sweat and transmits the heat everywhere in the body. The consequent picture includes the onset or exaggeration of fever during or immediately after meals, during the forenoon, early hours of the night or spring season, sensation of heaviness, loss of appetite, sweet taste in the mouth and salivation, nausea and vomiting, feeling of constriction in the heart region, somnolence, cough and dyspnea, pallor of nails, skin, eyes, face, urine and stools, rash, and preference for hot substances. It is possible and not uncommon for two or even three doṣas to be perturbed by a mixture of causative factors. Irregular meals or food one is not accustomed to, derangement of seasons, poisons and contaminated water, exposure to mountains, overuse of evacuative therapy, abnormal delivery and poor postpartum management are examples which could disturb more than one doṣa and produce more complex fevers (including sannipāta where all the three doṣas are disturbed). In clear distinction from doṣas, exogenous factors (āgantuka) can also cause fevers. Trauma, malignant organisms, offensive rites and curses belong to the exogenous category, which in turn perturb the doṣas. Trauma tends to disturb vāta in bleeding associated with injury, and malignant organisms affect vāta and pitta. Offensive rituals and curse can perturb all the three doṣas and give rise to sannipāta fever.

Fever is only one sign of an affliction. Before it manifests, prodromal symptoms appear including the loss of taste and appetite, lassitude, congestion in the eye and lachrymation, yawning, tremors, tiredness, giddiness, delirium, goose-flesh, intolerance to sound, cold, wind and sunlight, malaise, lack of energy, aversion to activity and work, aversion toward children and irritation with elders, dislike of sweets and preference for sour, salty and hot substances. Most of these signs and symptoms may persist even after the onset of fever.[3]

Fever is a critical illness which disturbs the entire body, sense organs, mind and intellect. It drains strength, joy and enthusiasm and leads to exhaustion and delirium. It is the master of all diseases in animals regardless of species and is difficult to control. Living beings are born with fever and die with fever, which draws a veil over the memory of their previous birth. In this sense, and in so far as it takes away the life of all living beings, the origin of fever can only be traced to the anger of

Maheśvara.

CLASSIFICATION AND CLINICAL FEATURES

Fevers are classified in many ways[4] as indicated below:

1. Somatic / psychologic
2. Mild (saumya)/burning (āgneya)
3. Internal/external
4. Natural/unnatural
5. Curable/incurable
6. Five types on the basis of periodicity: Continuous, remittent peaking once in 24 hours, remittent peaking twice in 24 hours, occurring every third and fourth day).
7. Seven types on the basis of the location in the dhātus.
8. Eight types on the basis of causation.

The clinical features of the above types of fever should be differentiated.

Somatic/psychologic[5]

Although fever affects the body and mind, the somatic type has its cause in the body whereas the psychologic variety takes its origin from the mind. The mental origin is indicated by distraction, apathy and mental exhaustion, which are compounded by the effect of fever on sense organs.

Mild/burning[6]

Certain fevers where vāta and pitta dominate are marked by the patient's desire for cold drinks whereas others where vāta and kapha are dominant are notable by the patient's preference for hot items. Vāta, in fact, is an adjuvant; when it interacts with kapha, the fever is mild (saumya) and in conjoint action with pitta, the fever is burning (āgneya).

Internal/external[7]

Internal fever is indicated by thirst, delirium, rapid breathing, giddiness, bone and joint pains, absence of sweating and obstruction of the passage of doṣas and feces. External fever, on the other hand, is characterised by mildness and easy cure.

Natural/unnatural (prākṛta/vaikṛta)[8]

Natural fever occurs in spring and autumn because kapha, accumulated in the cold season, gets perturbed in spring, and pitta, hot on its own, gets vitiated by the heat in autumn. The role of kapha in spring and pitta in autumn is however secondary to the seasonal cycles of ādāna and visarga which influence the body. Fever of the natural type does not necessarily mean easy recovery.

Curable/incurable[9]

Fever is curable when it occurs in a strong person in a mild form and is unassociated with complications. It is incurable when the causes and symptoms are multiple and consciousness is blotted out. Scorching fever accompanied by giddines, shortness of breath and delirium kills a person

in a week to twelve days. At the other end of the scale, chronic, deep-rooted and high fever in a debilitated person, in one whose body is swollen, and which seems to delineate the hairy from the non-hairy part of the head is also incurable.

Periodicity[10]

Continuous fever (santata) occurs when rasa channels of the body are turgid with the flow of heavy doṣas all over the body. This condition is grave and the patient may either recover or die on the seventh, tenth or twelfth days. The fatal outcome is assured when the perturbed doṣa matches the strength of the affected dhātu, time and bodily constitution with no neutralising circumstances. If the patient does not die but the rasa continues to remain polluted, the fever is sheltered in the seven dhātus, three doṣas, urine and feces. Even after the apparent remission of the fever, it may stay in the body for a long time and resist treatment.

There are remittent fevers which peak twice daily (satataka). This is seen when a disturbed doṣa in blood is countered by body resistance and the waxing and waning of the interaction manifests in the rise and fall of fever. Another type (anyedyuṣka) occurs when a disturbed doṣa is further potentiated by an affected dhātu, body constitution or time, and blocks the channels of fat during its reaction with neutralising factors. In this situation fever peaks once daily. If the doṣa blocks the channels of bone and marrow, the fever occurs on the third (tṛtīyaka) and fourth days (caturtthaka). The periodicity of fever is determined by the channels of a particular dhātu becoming the seat of interaction between a disturbed doṣa and its opposing factors in the body. The doṣa may indeed remain quiescent in dhātus for long and suddenly get vitiated and flare up when the circumstances are favourable. The rise and fall of fever at varying periods correlate with the increase and decrease of disturbed doṣas and the corresponding intensity of their reaction with opposing factors. Season, day and night also play a role in determining the onset of fever. The above five types of fever are *complex fevers*.

Location in dhātus[11]

Dhātu	**Manifestations**
Rasa	Heaviness, restlessness, scared appearance, nausea and vomiting, bodyache, yawning
Blood	Hot abscesses, thirst, blood in sputum, dizziness, sensation of burning, delirium
Muscle	Thirst, fainting, diarrhea, disquiet, odour, seizures
Fat	Sweating, severe thirst, nausea and vomiting, delirium, aversion to one's own smell
Bone	Diarrhea, vomiting, bone pain, convulsions, shortness of breath

Bone marrow	Shortness of breath, hiccup, darkness before eyes, feeling cold externally but burning within

From the prognostic standpoint, fever located in rasa and blood is curable, in muscle, fat, bone and marrow is curable with difficulty, and in semen, is incurable.

Causation[12]

Eight types have been mentioned collectively at the beginning. What follows is an outline of their individual manifestations.

Causation	Clinical features
Vāta and pitta	Headache: pain in small joints, goose-flesh, dryness in mouth and throat, vomiting, thirst, dizziness and fainting, lack of sleep and yawning, delirium
Vāta and kapha	Heaviness, drowsiness, feeling cold, headache and nasal congestion, cough, absence of sweating, fever of medium degree
Kapha and pitta	Alternately feeling cold and hot, sweating and non-sweating, thirst, loss of appetite, fainting, bitterness in the mouth, drowsiness
Three doṣas (Sannipāta)	There are thirteen manifestations of sannipāta with fever and many systemic complaints. They are classified as four types based on whether one, two or three doṣas are dominandy involved. In three manifestations, two doṣas are primarily disturbed with the remaining one secondarily and moderately disturbed; in nine, one doṣa is primarily involved and two secondarily and moderately disturbed: in the thirteenth type, all the three doṣas are disturbed with equal severity The symptoms of this type include bone and joint pains, headache, red and distorted eyes with secretions, pain and ringing in the ears, throat covered with a thick layer of rough deposit, lassitude, fainting, delirium, blackish and rough tongue, blood in sputum, thirst, loss of sleep, pain in the chest, little sweating or output of urine and feces, blackish and reddish patches on the skin, quietude, distended abdomen, indigestion.

The clinical features hold the clue to the determination of whether one, two or all three doṣas are disturbed in a given patient with fever.

Exogenous (āgantuka)[13]	Manifestations are determined by causes which are injury, attack by invisible creatures (bhūtas), improper attachment, exorcism and curse. Each cause is responsible for many distinctive types of manifestations. Initially on its own, these exogenous causes later merge into the perturbation of doṣas. All three doṣas may be perturbed and eight types of manifestations may follow the attack by bhūtas. These fevers are known as abhiṣaṅgaja type.

As explained in the beginning of the chapter, the perturbed doṣa establishes contact with the rasadhātu in all types of fevers and transfers its own heat and that of the rasadhātu to the body channels which get clogged. This occlusion of channels stops sweating and heats up the body in fever. The evolution of fever from its early, unripe phase (āma) to the late, ripened phase (nirāma) can be recognised from characterstic symptoms.[14]

TREATMENT

The treatment for fever is mainly threefold. Administered in sequence, it consists of reducing measures, evacuative procedures and the use of herbal preparations. Reducing measures include fasting, liquid diet, milk diet, ingestion of ghṛtas, which constitute śamana. Evacuative procedures mainly consist of emesis, purgation and basti. The third step is the administration of medical formulations. If the sequence is reversed and medications are given at the beginning when the fever is unripe they may do no better in eliminating doṣas than the effort to extract juice from an unripe fruit. Specific measures would be additionally necessary for treating complicated fevers and those caused by exogenous factors.

Reducing measures[15]

Except for fevers caused by emotions, wasting diseases and overexertion, reducing measures, as a rule, are administered in the beginning. They act by stimulating gastric juice and appetite and producing lightening of the body. When the fever is acute in onset, reducing measures including gruel and bitter herbs, sweating and the operation of time are effective in dissolving the immature doṣas. Hot water should be given to alleviate thirst due to the perturbation of vāta and kapha, and water boiled with bitter herbs and cooled would be in order for fever caused by disturbed pitta and wine. The herbs used for boiling in drinking water are mustā, parpaṭaka, uśīra, candana, udīcya and śuṇ ṭhī which have a beneficial effect on fever. When the fever is a result of disturbed kapha and the patient has nausea, emetics should be administered at an early stage. In the absence of indications for disturbed doṣas exiting on their own such as nausea, evacuative measures are not advisable and could even be risky.

Diet

After the initial course of reducing measures and emesis, the patient should be given thin gruel cooked with specific herbs for up to six days when the fever tends to resolve. This is indicated by the return of appetite, normal passage of urine, feces and wind, feeling of lightness of the body and sweating. Gruels are ideal at this stage except for fevers associated with alcoholism, addiction, extreme heat of summer and internal bleeding. In that case rich drinks of parched rice powder and fruit juices with

honey and sugar are appropriate.

The gruel and drinks should be given simultaneously with the soup of greengram or the meat of wild animals. The patient should be directed to brush his teeth with twigs that have the taste opposite to that in his mouth, which makes the mouth non-slimy, improves the sense of taste and restores appetite. After cleaning the teeth, the patient should rinse his mouth many times before taking a liquid diet.

After six days when a light, liquid diet regimen is in place, the patient should be given the extracts of herbal medications which restore digestion and settle perturbed doṣas. If these drugs are administered early or prematurely they may bind the doṣas and produce intermittent fever. Astringent extracts should be specially avoided. Gradually the diet is advanced with vegetable and meat soups up to ten days when the disturbed doṣas would have largely dissolved. At this stage ghee would be beneficial for fevers characterised by the severe disturbance of vāta and pitta and mild perturbation of kapha. However if kapha remains severely disturbed even after ten days, ghee should be withheld and reducing measures continued. Milk should be preferred when vāta and pitta are disturbed and the patient has constipation or diarrhea.

Evacuative therapy

If the fever proves resistant to all these measures, purgation should be considered provided the patient's general condition and digestion are strong. If the patient is weak and febrile, neither emesis nor purgation would be effective and he should instead be given milk diet and non-lubricant enema (āsthāpana). While purgation gets rid of accumulated kapha and pitta in the small intestine (pittāśaya), enema evacuates the colon (pakvāśaya). Lubricant enema (anuvāsana) should be considered in patients with chronic fever, headache, numbed senses and constipation. If their heaviness and pain in the head are severe, head evacuation would also be in order. Ancillary measures such as massage, shower of water, bath with cold or hot water should also be given along with other therapeutic measures. If chronic fever is confined to the skin and an exogenous agent is suspected, incense should be burned and collyrium applied to the patient's eyes.

Herbal medications with gruel[16]

Herbal medication	Appropriate for which clinical features	Remarks
Long pepper, ginger, pomegranate	Poor digestion, but hungry;desire for sour things	With rice gruel
Long pepper, ginger, pomegranate	Diarrhea, predominant pitta	With rice gruel; eaten cold with honey
Gokṣurā, kaṇṭakārī	Pain on the sides, lower abdomen, head	With gruel of red Ñāli rice
Pṛṣniparṇī, balā, bilva, Ñuṇṭhī, utpala, dhānyaka	Diarrhea	With sour grue
Vidārigandhādi group	Cough, dyspnea, hiccup	Cooked with gruel
Long pepper, āmalakī fruits, ghee	Constipation	Cooked with barley gruel
Mṛdvīka, pippa, līmūla, cavya, śuṇṭhī	Constipation, abdominal pain	Cooked with liqui d gruel
Bilva, balā, vṛkṣāmla, kolāmla, pṛṣniparṇī, kaṇṭakāri	Sharp pain in the abdomen	Cooked with gruel
Śuṇṭhī, āmalaka, sugar; fried ghee	Absent sweating, insomnia, severe thirst	With liquid gruel
Greengram, lentils, grams, horsegram, makuṣṭaka		Suitable as pulse soup
Leaves and fruits of patola, kūlaka, pāṭhā, karkōṭaka, kaṭhillaka	All fevers	
Meat soup of common quail, kapiñjala, deer, cakora, kuraṅga, rabbit etc.	All fevers	For non-vegetarians

Herbal decoctions as febrifuge (kasāyas)[17]

Herbal extract	Actions in febrile patients	Remarks
Musta, parpataka, Ḍunthī, parpataka and durālābha	Appetiser digestive	Cold extract
Kirātatikta, musta, gudūchi, śunthī, pātha, uśira, udicya	Relieves thirst	
Indrayava, leaves of patōla, katurōhini	Relieves continuous fever	
Patōla, sariva, musta, pātha, katurōhini	Relieves continuous fever with two peaks in 24 hours	
Nimba, patōla, triphalā, mrdvīkā, musta, kutaja	Relieves continuous fever with one peak in 24 hours	
Kirātatikta, gudūchi,gudūchi, candana, śunthī	Relieves fever occuring on 1st and 3rd day	
Gudūchi, āmalaka, musta	Relieves fever occurring on 1st and 4th day	

The following extracts are employed in treating complex fevers (visamajwara).

Kuṭaja, āragvadha, pāṭha etc.[18] ending in balā	All fevers	Taken as cold infusion
Madhūka, mustā, mṛdvīka etc.[19] ending in kaṭurohiṇī	All fevers	Kept overnight, quickly relieves fever
Jāti leaves, āmalaka, mustā and dhanvayāsa with jaggery	Laxative	For fever with constipation
Triphalā, trāyamāṇa, mṛdvikā, kaṭurohiṇī	Laxative	Eliminates pitta and kapha
Trivṛta with sugar	Relieves pitta–kaphaja disorder	Used as extract
Bṛhatī, kaṇṭakārī, kuṭaja etc., ending in cavya	Relieves fever in sannipāta fever	
Śaṭī, puṣkaramūla, kaṇṭakāri etc., ending in kaṭurohiṇī (śatyādi group)	Relieves fever in sannipāta fever	Beneficial for cough,pain in the chest and sides, shortness of breath
Bṛhatī, puṣkaramūla, kaṇṭakāri etc., ending in kaṭurohiṇī (bṛhatyādi group)[20]	Relieves fever in sannipāta type	Beneficial in resistant cough

[18][19][20]

Ghee-processed extracts[21]

This group becomes useful when fever does not respond to extracts, emesis and reducing and dietary

measures.

Ghee-processed herbal extracts	Action in febrile patients	Remarks
Pippalī, candana, mustā etc; ending in kaṇṭakāri	Relieves chronic fever, wasting, cough, bodyache, poor digestion	Cooked in ghee
Vāsā, guḍūcī, triphalā etc., ending in yavakṣāra, mixed with double quantity of milk and paste of pippalī, mustā, candana etc., ending in śuṇṭhī	Relieves chronic fever	Cooked in ghee
Balā, gokṣūra, bṛhatī etc., ending in durālabhā extract mixed with the paste of bhūmyāmalakī, śaṭī, drākṣa etc; ending in āmalaka	Relieves fever, wasting, cough, headache, pain on the sides	Extract cooked in ghee

Herbal medications, milk and associated evacuative procedures[22]

Herbal medications	Actions in febrile patients	Remarks
Madanaphala, pippalī or indrayava or madhuka	Eliminates accumulated doṣas	With hot water for emesis
Grapes, āmalaka, āmalaka fried with ghee	Relieves fever	For purgation
Trivṛt powder or triphalā or āragvadha with honey and ghee	Relieves fever	With milk or grape juice
Harītakī, grapes	Relieves fever	With hot milk
Pancamūla	Relieves fever, cough, shortness of breath, pain on the sides	Boiled with milk
Eraṇḍa roots	Relieves fever with sharp abdominal pain	Boiled with milk
Gokṣūra, balā, kaṇṭakārī, etc., ending in śuṇṭhī	Relieves fever, swelling, retention of urine and feces	Boiled with milk
Śuṇṭhī, mṛdvīka and kharjūra	Relieves fever, thirst	Boiled with milk and mixed with ghee, honey and sugar
Milk	Relieves fever	Boiled with four times volume of water
Fresh, hot milk	Relieves fever, vāta and pitta	Boiled with four times volume of water
Leaves of paṭola, nimba, uśīra etc., ending in balā; mixed with honey, ghee and paste of	For doṣa accumulated in large bowel (pakvāśaya)	Boiled in milk; final formulation given as enema

madana, mustā, pippalī etc; ending in kuṭaja		
Āragvadha, uśīra, madanaphala and four parṇis added with the paste of priyaṅgu, madana, mustā etc., ending in madhu yaṣṭikā	Relieves fever	Mixed with ghee, jagger and honey: given as enema
Guḍūcī, trāyamāṇa, candana etc., ending in madana; mixed with the paste of pippalī, madana, mustā etc ending in madhuka: mixed again with salt, honey and ghee	Relieves fever: induces sweating. Imparts strength and taste for food	Boiled and concentrated with meat soup;given as enema
Jīvantī, madhuka, medā etc., ending in śatāvarī	Relieves fever	Boiled with milk, water, ghee and oil and given as lubricant enema
Paṭola, nimba, guḍūcī etc, ending in madana; cooked with lubricant substance	Relieves fever	Ground and cooked together; given as lubricant enema
Candana, aguru kāsmarya etc, ending in utpala; cooked with lubricant substance	Relieves fever	Given as lubricant enema
Candana, bhadraśri, kālīyaka etc. ending in ātmagupta (more than hundred plants)(candanādya oil).	Relieves fever quickly in patients desiring cold things	Plants boiled in water and concentrated; cooked with oil, milk and paste of same plants as per directions. Massage with this oil beneficial; water boiled with the same medications for bath.

Aguru, kuṣṭha, tagara etc., ending in māṣa. (more than 98 plants) (agurvādya oil).	Relieves fever	Decoctions of plants prepared; mixed with the paste of the same plants, wine, top layer of curd, some types of vinegar, or oil and cooked; used for massage

Fomentations of different kinds should be used as appropriate. In febrile patients desiring warm things, the embrace of a well-endowed young woman may be beneficial.

General measures[23]

A febrile patient should lie down and rest on a comfortable bed which may be covered with cold

leaves of puṣkara, lotus and silk cloth cooled with sandal water in a room sprinkled with cold water or cooled by other means. Contact with cooled items of gold, conch shells, and jewels is useful. The patient should be fanned with fans made of flowers cooled with sandal water and cheered by lovely and dear women adorned with sandal paste and jewelery. Cold food and drinks, flower gardens, breeze and moonlight would assist recovery.

Specific measures[24]

Reducing measures are recommended to begin with because the disturbed doṣas in fever put out the gastric fire and hamper digestion in the early stage. Subsequently, the disturbed doṣas enter the seven dhātus and are themselves digested in seven days. Therefore the maturation of fever is said to occur on the eighth day. During this period heavy or bulky food should not be given, and only medicinal formulations should follow. When the fever is due to the disturbance of kapha, the maturation of fever takes ten days and the reducing measures should be continued for as long, with the administration of medicinal formulations to follow. While fevers caused by āma, kapha or kapha-pitta should be managed by reducing measures, those due to kapha, pitta and vāta should be managed with emesis, purgation and enema. When the cause is more than one doṣa, appropriate medications are essential. When two or all three doṣas are disturbed, the measures - diet, medications and physical procedures - should be carefully chosen to counteract the increase and decrease of particular doṣas in the given context.[25] If a swelling appears behind the ear towards the end of a fever due to the perturbation of two or three doṣas it could be fatal and should be dealt with by prompt bloodletting, administration of ghee, anointing, and gargles. When a fever which is resistant to the various measures enters tissues such as blood, it calls for bloodletting.[26]

Fever associated with cellulitis, injury and eruptions should be initially treated with the administration of ghee except when kapha and pitta are in dominance. Fever becomes chronic when the body is weak; it should therefore be countered by a strengthening diet. In summary, fever lodged in rasa should be treated by emesis and fasting, in blood, by bloodletting, in muscle and fat, by purgation and fasting, and in bone and marrow by enema.

Intermittent fever[27]

The course of treatment outlined thus far should be modified for treating tertian and quartan fevers because an external factor is involved in intermittent fevers. When intermittent fever is dominated by vāta, the treatment includes ghee, lubricant and non-lubricant enemas, hot food and drinks; the pitta-dominant type calls for purgation, milk, medicated ghee and bitter herbs; the kapha-dominant variety should be treated by emesis, appetisers, reducing measures, rough diet and astringent drugs. The diet for a patient with intermittent fever should include strong wine and meat of cock, partridge and peacock. At the onset of fever and after lubrication and fomentation, several medical formulations as recommended should be given; alternatively, he should consume a large quantity of ghee or a full meal followed by vomiting, or take a good quantity of wine after a full meal and retire to bed.

Apart from lubricant and non-lubricant enemas, the feces of cat and bull could also be used in certain formulations for treating intermittent fever. Pippalī, triphalā, curd, buttermilk, milk and pancagavya are beneficial in this condition. The prophylaxis against intermittent fever includes sporting gems, auspicious herbs, and poison and the administration of antidotes to the poison.

Given the gravity of intermittent fever, prayer to Śiva, Viṣ ṇnu, Braḥma, Indra, Aśvins, Agni,

Gaṅgā, Himālayas and Maruts is appropriate in therapy. Devotion to parents, reverence for teachers, abstinence, noble conduct, listening to the vedas, and communion with sages are also conducive to recovery.

OTHER FEVERS [28]

Some fevers have not been covered so far. For example, fever can be caused by exogenous factors such as curse, black magic or evil spirits, which must be managed by worship therapy. When injury is the exogenous cause, the approach should be based on massage with ghee, bloodletting, appropriate wines and food based on rice and meat soup. When emotions such as infatuation, anguish and fear are responsible for fever, comforting words, company of the lover and measures to relieve vāta would be fruitful. One who gets worse by brooding over the course and intensity of fever should be distracted by objects of pleasure and surprise.

The remission of fever is marked by unmistakable signs which include groans, vomiting, gestures, pallor, change in breathing, sweating, tremors, delirium, fainting, body becoming cold or hot and the noisy expulsion of liquid stools with flatus. During recovery, the patient should refrain from taking incompatible food and drinks, sexual intercourse, exertion, bath and overeating. If these proscriptions are ignored during the phase of recovery, fever may relapse. Relapse has other causes as well such as mismanagement when the fever resolves in the absence of the complete elimination of perturbed doṣas. Yet again, doṣas mature serially, in the phase of resolution, in successive dhātus without causing fever but damaging dhātus all the same. The clue to this process is indicated by anxiety, pallor, loss of appetite, rash and other signs. Relapse indeed is seen even in other diseases when the apparent recovery does not coincide with the elimination of disturbed doṣas. Therefore mild evacuative therapy, light diet, massage, bath, bitter ghee etc., should be given if necessary even after the resolution of fever provided the patient is strong enough. A decoction of kirātatikta, kuṭaki, musta, parpaṭaka and guḍūci, taken regularly, is also beneficial in relapses. Finally the wise physician should always tailor his treatment to suit the context.

38 *Pitta-Induced Bleeding Disorders (Rakta Pitta)*

CAUSE

These are a group of disorders caused mainly by taking heterogeneous and incompatible foods. A staple diet of the following items is likely to provoke pitta and pitta-induced bleeding: grains such as yavaka, pulses such as blackgram supplemented with hot, pungent and caustic items or with sour ones such as curd and buttermilk, meat of pig, buffalo, cow and fish, oil cake etc., additives consisting of radish, mustard, garlic, śigru etc, postprandial drinks of wine and various beverages, large quantities of rice flour after meals, and pigeon meat cooked in mustard oil and caustic substances. Pittaja bleeding can also occur when a person exposed to hot sun or fire at the workplace takes milk along with sour drinks cooked with horsegram, oil cake and fruits of jambu and lakuca. Whatever the dietary cause, the perturbed pitta enters blood which consequently expands and exceeds its norms, thereupon pitta moves all over the body and blocks the openings of the blood channels arising from liver and spleen. This leads to congestion and bleeding episodes. By associating with blood, pitta acquires its smell and colour.

CLINICAL FEATURES

Pitta-induced bleeding disorders have many premonitory signs. These include general malaise, aversion to food, poor digestion, acid eructation, nausea and vomiting, burning sensation in the body, hoarse voice, smell of metal, blood or fish in the mouth; reddish, greenish or yellowish discolouration in the body parts, urine, feces, sweat, saliva, ear wax, nasal mucus and boils; and often seeing red, blue, yellow, dark or brilliant objects in dreams. When clinically manifest, new disorders may appear including weakness, shortness of breath and cough, diarrhea, swelling, pallor and phthisis.[1]

Rakta pitta may follow an upward or downward pathway. In individuals with plenty of kapha, it follows the pathway upwards in association with kapha and produces bleeding through the ear, nose, eyes and mouth. In persons in whom vāta is dominant, the downward pathway is followed in conjunction with vāta and the appearance of blood in urine and feces. When kapha and vāta are in equal measure, disturbed pitta may course in both directions and cause bleeding from everywhere. Pitta-induced bleeding is a serious illness which calls for immediate and effective treatment with due regard to the importance of the doṣage of medications, location of the patient and his bleeding and the time of illness in terms of season, patient's age and stage of illness.

CLINICAL OUTCOME[2]

When rakta pitta is associated with the disturbance of kapha the shed blood is viscous, pale, greasy and mucoid; in association with vāta it is blackish, reddish, frothy and thin and in association with pitta is saffron, black or shiny black like collyrium. Rakta pitta which results from the perturbation of all the three doṣas shows combined features.

Rakta pitta associated with the disturbance of one doṣa is curable, with that of two doṣas is manageable but with that of three doṣas is not curable. Emaciation, poor digestion and old age also worsen the outcome. Another index of prognosis is the direction of bleeding. If it occurs through the seven orifices of the head, the condition is curable whereas bleeding through the two lower orifices of the body is only manageable. Bleeding from all orifices is not only incurable but also fatal. In this condition, rakta pitta passes out in large quantities with deep black or red colour and cadaveric smell, often sticking to the patient's throat. At the other, favourable end of the clinical spectrum, rakta pitta emerges through a single orifice in small quantity when the duration is short, the patient is strong and the season is congenial.

TREATMENT[3]

Therapy should be titrated to suit the patient's general condition and the severity of the illness. If the patient is strong and eating well, early bleeding with much food contamination need not be vigorously checked lest premature measures for stoppage may give rise to a variety of complications such as fainting, loss of appetite, splenic enlargement, painful urination, white patches on the skin, leprosy and piles. What the patient needs in the early stage is reducing or saturating measures on the basis of the clinical cause, perturbation of doṣas and causation.

DRINKS

The thirst of a patient with rakta pitta should be relieved by boiled and cooled water, or water boiled with hrībera, candana, uśīra, mustā and parpaṭaka. If saturation is also desired, the water should be boiled with kharjūra, mṛdvīka fruits, madhūka flowers and parūṣaka fruits. Another effective preparation for saturation is the powder of parched rice mixed with ghee and honey, which is especially beneficial in the upward course of rakta pitta; it may be mixed with pomegranates and āmalaka fruits if the digestion is weak.

DIET

In rakta pitta, the diet should consist of cereals such as śālī and ṣāṣṭika, soup of grams, lentils and other pulses, vegetables such as paṭōla and nimba, tender leaves of plakṣa, gaṇḍīra etc, flowers of kovidāra, kāśmarya and other similar items which are fried in ghee or boiled. Those who prefer meat should be given meat soups of pigeon, common quail, crane and deer, which are enriched with ghee and sugar. Vegetable and meat soups are especially appropriate when rakta pitta is associated with kapha and vāta, respectively.

Gruels are specially prepared for patients with rakta pitta in water which had been boiled with the stamens of lotus, water lily, prśniparṇī and the grains of priyaṅgu. Special gruels may also be prepared with various combinations of medicinal plant extracts and meat juices. If the patient is constipated, meats of rabbit, partridge, peacock and cock cooked with medicinal plants are

beneficial.[4] In the choice of food items, the patient should not be given any item which figures among the causative factors of rakta pitta.

Evacuative measures[5]

When the patient is strong but the accumulation of doṣas is excessive and illness severe, evacuative measures should be instituted. They should be so designed that the direction of evacuation is opposed to that of the flow of rakta pitta. A patient with discharge of rakta pitta from the orifices in the head should be administered purgation whereas another with blood in urine and stools should be managed with emesis. The herbal preparations which are effective as purgatives and emetics should be given and, following evacuation, a dietary regimen put in place. In the upward manifestation of rakta pitta, saturating drinks are appropriate while the downward type would gain from gruel.

Formulations

Evacuative therapy is however inappropriate for patients who are debilitated, depressed, used to severe physical exertion, suffering from diseases such as phthisis and for pregnant women and children. All such patients are candidates for medications which consist of several herbal decoctions, animal products including blood and dung, combinations of vegetable and animal products, and water preserved with precious stones, earth, lotus, herbs and mixed with sugar and honey.[6] A few examples are given below:

If these medications prove ineffective in controlling rakta pitta, the disturbance of vāta should be suspected as a complication. In this situation, milk of cow or goat, boiled and prepared with specific group of medicinal herbs, sugar and honey should be relied upon to control bleeding from the urinary and rectal passages.[7] Preparations of ghee as specific ghṛtas are potent in stopping bleeding and relieving associated symptoms such as cough, fever, hardness of bowels and pain. Ancillary measures such as massage, cooling methods including bath and enema should also be employed in the treatment of rakta pitta.[8]

Bleeding through the nose should be managed by the patient being made to inhale herbal decoctions and several other preparations of milk, conch shell, ochre, sugar and water after the doṣas have been eliminated. Premature application of drugs through inhalation may lead to several complications including foul smell, blood with pus and infestation by maggots. The entire group of bhadraśriyādi herbs should be used for anointing, shower, bath and the preparation of ghee and oil.[9]

CONCLUSION

The treatment of rakta pitta does not end with diet, evacuative procedures and medications. A cool habitat, lovely park, gentle breeze and contact with gems cooled in water have a role in alleviating the patient's sensation of burning. Cots and chairs covered with leaves and flowers of aquatic plants and silk cloth are similarly beneficial. Listening to the narration of cheerful stories, gazing at lakes, rivers and flowers in bloom, and the company of lovely women will also hasten the patient's recovery.

39 *Gaseous and Hemorrhagic Lumps of the Abdomen (Gulma)*

There are five types of abdominal lumps and they are caused by vāta, pitta, kapha, a combination of three doṣas (nicaya or sannipāta) and blood. The lumps caused by blood occur only in women due to gynecological conditions. Like other diseases abdominal lumps are also characterised by specific causation, premonitory signs, symptoms and therapeutic response.[1]

FIVE TYPES OF LUMPS

VĀTAJA

A person with a vātala constitution is a candidate for vātaja gulma. On becoming lean and weak due to fever, diarrhea and vomiting, if the person also takes a vāta-triggering diet or very cold food in large quantity or undergoes emesis or purgation in the absence of prior lubricant therapy, resists the urge to vomit, pass flatus, feces and urine, takes too much fresh water after a full meal, travels in a rickety cart, resorts to excessive physical activity, sexual intercourse and liquor, sustains injuries, nurses anxiety, adopts unusual postures and forms of physical exercise, vāta does get perturbed. The perturbed vāta disturbs pitta and kapha in turn, enters the gut and solidifies thanks to its roughening quality. The resultant lumps which are occlusive may be located in the region of the heart, pelvis, sides or umbilicus. The lumps are painful and may be nodular or globular. It may wax and wane even as the intensity of pain fluctuates. Patients may have the sensation of ants crawling over the body, of various types of pain, fever in the evening, difficulty in breathing, goose-flesh at the onset of pains, splenic enlargement, abdominal distension and loud bowel sounds, non-passage of wind and stools, belching and indigestion, pain on the side of the neck, temple and head, enlarged nodes in the groin, and blackish or reddish discolouration and roughness of skin, nails, eyes, face, urine and feces.

PITTAJA

If a person is weakened by the same factors that debilitate the vātala individual but consumes sour, salty, hot, sharp or caustic items, vinegar and spoilt wines, salads and acidic vegetables, or grains and meats, eats during a period of indigestion, suppresses natural urges too long, is given an emetic when his stomach is overcome by roughness, or is exposed to too much sun and wind, pitta becomes perturbed jointly with vāta. The vāta accumulates and deposits the disturbed pitta in a compartment of the stomach and gives rise to pain which resembles the pain of vātaja lumps. Because of the perturbation of pitta, the patient feels a burning sensation in the stomach, the heart region, chest and throat besides severe acid eructation. The region over the lump is hot, painful, moistened by sweat,

tender and is marked by mild goose-flesh. He may have fever, giddiness, thirst, dryness of mouth and throat, diarrhea and fainting. Green or yellow discolouration may appear on the skin, nails, eyes, face, urine and feces.

KAPHAJA

A patient with a kaphaja lump is similar to the the person with pittaja lump in that the predisposing condition is emaciation. The difference is in so far as the food habit consists of eating too much fatty, heavy and cold items, regular intake of rice flour, sugarcane, milk, sesamum, blackgram, jaggery; excessive use of unripe curd and fresh wine, green vegetables, meat of aquatic and domestic animals. Other causes are the suppression of natural urges, drinking water liberally while hungry, and violent shaking of the body. As an effect of these causes, kapha, perturbed in association with vāta, gets sequestered in a portion of the stomach and causes severe pain which is similar to the pain of vātaja lumps. However, kaphaja lump is accompanied by fever preceded by chill, loss of appetite and indigestion, vomiting, bodyache, sleep and lassitude, heaviness and pain in the head and heart disorders. The lump is stable, heavy, hard, deep-seated and not sensitive to touch. The complications which may arise include shortness of breath and cough, pallor of skin, nails, face, urine and feces and even phthisis in the old.

SANNIPĀTA

When all the three doṣas are perturbed, the result is sannipāta gulma which shows a mixture of causes and effects and is resistant to treatment.

ŜOṆITA

The occurrence of lumps caused by blood is confined to women because of the presence of uterus and menstrual flow. The demands of service, dependence on others, lack of knowledge, use of vāta-enhancing agents after abortion, monthly periods and the requirements of delivery induce women to resist natural urges, which leads to the perturbation of vāta. The disturbed vāta blocks the opening of the uterus and obstructs menstrual flow, which collects month after month and enlarges the organ. The woman develops pain, diarrhea and vomiting, indigestion, bodyache, malaise and sleep, her lips and breasts show darkish discolouration and milk appears in the breast. Other signs of pregnancy also become evident such as nausea, urge to eat certain foods, swelling of the feet, dilatation of the genital passage with bad smell and discharge. These signs may be confusing but the lump can be distinguished from pregnancy because the mass pulsates globally, unlike a pregnant uterus where only the fetal movements take place.

SIGNS AND SYMPTOMS[2]

There are five locations of abdominal lumps: the pelvic cavity, umbilical region, cardiac region and the flanks. The signs and symptoms of the lumps are however determined more by the perturbed doṣa which underlies them than the location. The vātaja lumps are moveable, painful, and obstruct feces and flatus. The pain is worse when the stomach is empty and is relieved on taking food. It causes dryness of the mouth and throat, blackish or reddish discolouration of the face and pain over the cardiac region, flanks and shoulders. The pittaja lump is associated with fever, thirst, flushing of the face and body, sweating, and burning sensation. Food aggravates the pain and the lump is tender to touch.

A kaphaja lump is cold, heavy, greasy, immobile and conducive to sleep. In the sannipāta type the characteristics of all the three doṣas would be seen in varying combinations.

Signs and symptoms are important from the prognostic standpoint as well. A lump which is severely painful, raised, hard as a rock, has associated burning sensation and affects the patient's physical, mental and digestive strength is an indication of the disturbance of all three doṣas and incurability.

TREATMENT [3]

VĀTAJA

The diet should be hot, liquid and rich in fat, and drinks could be wine or water boiled with coriander. Meat of cock, peacock and partridge, śāli rice and ghee are also desirable items in the diet. The first step in treatment is to carry out the procedure of lubrication as described elsewhere. Lubrication involves not only the intake of lubricant substances but also their inclusion in the patient's food, massage, drinks and the administration of enema. This all-round lubrication should be followed by fomentation which softens the body channels, subdues the perturbed vāta, relieves the block in the gut and the lump. The lubricant therapy has an edge in the treatment of lumps in the upper abdomen whereas enemas are more efficacious if the lump is located in the large bowel. If the digestive power returns and the patient continues to remain constipated, saturating, fatty and hot food should be given. It may be necessary to repeat the procedure of lubrication and enema in the treatment of vātaja lumps while taking care that kapha and pitta are not disturbed meanwhile. If kapha does get disturbed in vātaja lumps, the patient's digestive power declines and he loses appetite and becomes dull, drowsy and inactive. This should be dealt with by emesis. If the disturbance of vāta and kapha causes constipation and abdominal pain, suppositories, pills and powders which relieve vāta and kapha should be given. If pitta gets disturbed in a patient with vātaja lump, a purgative with lubricant properties should be given. If all these measures fail, bloodletting should be considered in the management of a vātaja lump.

PITTAJA

A patient with a pittaja lump precipitated by hot and greasy food should be given a purgative; if the precipitating factor was hot and rough food, hot ghee should be given. If the pittaja lump is lodged in the large bowel, enema of milk with bitter herbs or ghee cooked with tilvaka should be administered promptly.[4]

If a patient with a gaseous abdominal lump complains of thirst, fever, burning, pain, sweating and poor digestion, bloodletting should be considered. This settles the lump, frees blood from acidity and relieves the patient's pain. The patient may become frail following bloodletting and other interventions, in which event a nourishing diet should be given including meat soup followed by ghee regularly. If the lump becomes inflamed and rakta and pitta continue to be aggravated in spite of various measures, surgery should be opted for. Inflammation or ripening of a lump should be recognised when the patient develops burning pain, malaise, sleeplessness and restlessness in contrast to an immature lump which is hard, deeply located and immobile with no discolouration. An inflamed lump may be initially treated with a poultice. As inflammation progresses, the lump may bulge, develop reddish or blackish discolouration, turn cystic and painful, and become tense and

numb on pressure. This is the stage when a lump matures and passes on to the jurisdiction of the Dhanvantari school of surgeons who are skilled in procedures such as puncturing, draining and healing. The signs of inflammation are common to internal and external lumps except that the external lump is readily seen and bulges in all directions.[5] In a different clinical course, the maturing lump may decompress and open in the upward or downward direction and drain itself. In this event it should be watched by the physician for ten to twelve days when an agreeable diet should be prescribed. When the drainage is over, bitter ghee with honey should be administered.

KAPHAJA

Cold, heavy, and oily or greasy substances underlie the causation of kaphaja lumps. If the patient's general condition is not satisfactory and digestive power is weak, reducing therapy is appropriate, at any rate initially. If the patient has pain and nausea and his belly is full and quiet, emesis too should be carried out. After the regimen of reducing measures and emesis, the diet should be gradually advanced and hot and bitter drugs administered. A hard lump associated with constipation should be fomented. Following the measures for reduction, emesis and fomentation, appetite usually returns; thereafter the patient should be given ghee treated with alkaline and hot substances. When the lump becomes mobile, purgation with lubricants or the administration of enemas with a preparation of ten roots (daśamūla) may remove it altogether. Medication in the form of pills, powders or extracts have a role in treatment when vāta is obstructed whereas a large, hard and immobile lump should be managed differently with alkali, urine and cauterisation.[6]

Cauterisation and alkali should be employed only after a careful study of the particular doṣa that is disturbed, the type of lump, general condition of the patient and the season when the illness occurred. The patient should be on a diet of meat or milk and ghee when alkali is administered. Thanks to its irritant property, the alkali wears down the accumulated kapha and which begins to get eliminated. If the kaphaja lump fails to respond to varied measures including a reducing regimen, emesis, fomentation, purgation, enema and the administration of medications in the form of pills or powder, cauterisation with a sharp iron should be performed as the last resort following bloodletting. The heat and sharpness of the cautery would settle the disturbed kapha and vāta and melt away the lump. In the application of cautery and alkali, the surgical experts of the Dhanvantari school and the medical experts of kṣāratantra take the leading role.[7]

From a practical standpoint, enemas - lubricant and non-lubricant -constitute the best treatment for abdominal lumps of vātaja, pittaja and kaphaja types.[8]

FORMULATIONS IN TREATMENT[9]

VĀTAJA LUMPS

Formulations	Actions	Remarks
Triphalā, dhānyaka, vidaṅga etc., ending in citraka (tṛyūṣaṇādya ghṛta type 1)	Relieves vāta gulma	Cooked in ghee; consumed with milk
Paste of the above herbs with decoction of ten roots (daśamūla)(tṛyūṣ aṇādya ghṛta type 2)	Relieves gulma	Cooked in ghee
Paste of hiṅgu, sauvarcalā, jīraka etc.,	Relieves colic and constipation	Cooked in ghee; consumed with

milk curd ending in tulasī (hiṅgu sauvarcalādya ghṛta)		
Paste of hapuṣā, trikaṭu, pṛthvīkā etc., ending in pomegranate (hapuṣādya ghṛta)	Relieves colic, constipation, piles, female genital disorder, dyspnea, cough	Cooked in ghee
Pippalī, pomegranate, dhānyaka etc., ending in śuṇṭhī (pippalyādya ghṛta)	Relieves vātaja lump, piles, intermittent fever, pain in female genital tract	Cooked in ghee and milk

All the above herbal ingredients could also be used in the form of pills, powders, suppositories and decoctions.

Hiṅgu, trikaṭu, pāṭhā etc; ending in cavya (hingvādi powder and pills)	Relieves pain in the sides, heart region, vāta-kapha	Powder used in food and drinks: powder made into pills with mātuluṅga juice
Śaṭī, puṣkaramūla, hiṅgu etc; ending in ajamodā (saṭyādi pill)	Relieves abdominal lumps, splenic enlargement, asthma, heart disease, piles, constipation	Powdered and blended with the juice of matuluṅga or madhuśukta
Garlic milk (laśuna ksīra)	Relieves vātaja lumps, sciatica, intermittent fever, heart disease	Boiled with milk and water and concentrated
Castor oil, cow's urine, wine, sour gruel, yavakṣāra (taila pancaka)	Relieves vātaja lumps, constipation	Drunk together
Nīlinī, trivṛdantī etc., ending in śuṇṭhī (nīlinyādya ghṛta)	Relieves vātaja leprosy, swelling, pallor, splenic enlargement, insanity	Cooked with ghee and mixed with curd
Rohiṇi, kaṭukā, nimba, ending in masūra (rohiṇyādya ghṛta)[10]	Effective in pittaja lumps, fever, giddiness, fainting, loss of appetite	Cooked in ghee

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Trāyamāṇa boiled and concentrated, blended with paste of rōhiṇī, kaṭukā, mustā, ending in utpala (trāyamāṇādya ghṛta)	Gets rid of lumps, pittaja fever, heart disease, jaundice, leprosy	Final step in preparation involves milk āmalaka and ghee
Āmalaka, sugarcane, harītakī (āmalakādya ghṛta)	Beneficial in pittaja lump	Cooked in ghee
Drākṣa, madhūka, kharjūra, ending in triphalā (drākṣādya ghṛta)	Cures pittaja lumps and disorders	Boiled in water and processed with ghee, sugarcane juice and milk
Vāsā, honey (vāsāghṛta)	Beneficial in pittaja lumps, internal bleeding, fever, asthma and heart disease	Whole plant used in the preparation with honey and ghee

A patient with a pittaja lump should be given kampillaka powder mixed with honey or the solution of drākṣa and harītakī with jaggery for purgation. His burning sensation would respond to massage with ghee or candānadya oil. Bitter enemas are beneficial. The diet should consist of śāli rice, wild meat, cow's or goat's milk, āmalaka, drākṣa, water boiled with balā or drugs of vidārigandhādi group. Therapeutics aims at enhancing the digestive fire.

KAPHAJA LUMPS[11]

Formulations	Actions	Remarks
Ten roots (daśmūla), trikaṭu, yavakṣāra etc., ending in pomegranate (daśamūlīghṛta)	Relieves kaphaja lump promptly	Cooked with ghee
i. Bhallātaka, vidārigandhādi roots ii. Pippalī, śuṇṭhī, vacā etc., ending in rāsnā (bhallātakādya ghṛta)	Overcomes kaphaja lump, splenic enlargement, asthma and cough	i. boiled in water and concentrated; cooked with ghee, milk and paste of ii.
Pippalī, pippalīmūla, cavya etc., ending in yavakṣāra (kṣīraṣaṭpala ghṛta)	Eliminates kaphaja lump, splenic enlargement, anemia, cough and fever	Cooked in ghee
Trivṛt, harītakī, bibhītaka etc., ending in daśamūla (misraka fat preparation)	Relieves kaphaja lump, leprosy, splenic enlargement, pain in female genital tract	Boiled in water and concentrated: cooked with ghee, castor oil and milk. Taken with honey
Harītakī, dantī, citraka etc., ending in nāgakesara (dantiharītakī)	Relieves kaphaja lump, piles, heart disease, splenic enlargement, jaundice etc.	Ingredients processed sequentially as directed; honey, oil added

After lubrication and fomentation, a patient with kaphaja lump should be given an emetic if his general condition is satisfactory. When the lump has softened it should be drawn into a jar which contains burning grass like kuśa. After it has softened further, the jar should be removed and the lump incised and compressed with pieces of leather or glass for drainage without touching the bowels. It may also be fomented after oil massage. Enemas are also effective in rhe treatment of kaphaja lumps. Similarly, powder and pills and cauterisation employed in vātaja lump have a role in treating kaphaja lumps. Attention should also be paid to the patient's diet and drinks which should contain several herbs which are appropriate. When the kaphaja lump is huge and very gradual in onset, deep-rooted and projects like a tortoise, and there is accompanying debility, restlessness, fever, dyspnea and swelling in the cardiac region and legs, the disease is no longer curable.

ŚOṆITA - ABDOMINAL LUMPS EXCLUSIVE TO WOMEN[12]

This type is caused by the accumulation of blood following pregnancy and delivery. Following a course of lubricant and fomentation therapy, the next step should be to administer a fatty purgative to the woman. If this fails to relieve the lump, sesamum paste blended with alkali or the milk of snuhi or the juice of fish should be inserted into the female genital passage. Cotton pieces soaked with other medical decoctions, bile of boar or fish or yeast with jaggery and yavakṣāra could also be tried intravaginally. She should take alkali mixed with honey and ghee, garlic, fish and wine. When the blood accumulation is not detectable, medicated enema with milk, cow's urine and alkali is beneficial. When the blood begins to be discharged, she should switch to a diet of meat soup and rice with fresh urine as drink, and undergo massage with ghee. If the bleeding is severe, special measures recommended earlier should be instituted. In this situation, shower with ghee and oil; intake of the meat of partridges, cocks, sour ghee and strong wine; vaginal wash with medicated ghee; and lubricant enema with bitter ghee should also be employed.

40 *Polyuria (Prameha)*

As birds aim for their nesting trees, polyuria (prameha) seeks out individuals who are averse to bath and physical activity and gorge themselves on food. The obese and gluttonous who avoid physical activity are snatched away by death disguised as prameha. The cause of polyuria is traceable to the disturbance of doṣas, which has three requisites - a cause, the doṣa and a duṣya (dhātu of the body) which is the victim of disturbance. When these three components are not present together, or are weakly combined, the disorders may manifest late, or may be mild or incomplete. On the contrary, the three requisites in combination are bound to produce overt disorders.[1]

KAPHAJA PRAMEHA[2]2

When the threesome combination for polyurias involves kapha, the causative factors are manifold such as consuming large quantities of fresh grains of yavaka, uddālaka, mukundaka etc., or new pulses such as blackgram for long periods, eating too much meat of marshy, aquatic or domestic animals, greens, sesamum preparations, rice flour, rice cooked in milk or pulses, sugarcane products, milk, unripe curd and sweet substances, and drinking fresh wine. Other predisposing factors are lack of physical activity, too much sleep and sedentary habits. All these predispose to the perturbation of kapha which is largely liquid in character. The disturbed kapha acts upon the loose and plentiful muscles and fat, body fluid, semen, blood, muscle fat, marrow, lymph, rasa and ojas which are the duṣyas in this context. The disturbed kapha diffuses over the body which is loosely held together in the obese, and blends with fat which is not only plentiful but is also similar in properties. The kapha-fat admixture unites with body fluid and muscle which are in abundance. As a result, muscle undergoes destruction and gives rise to boils such as śarāvikā. The body fluid, similarly assailed, undergoes transformation through urine and blocks the large and fatty openings of the urinary channels emerging from the kidneys and urinary bladder. The kaphaja prameha which results may be stable or incurable.

When the body fluid-kapha-fat complex enters the urinary organs and undergoes transformation as urine, the resulting sample of urine may carry any of the ten properties of perturbed kapha and bear names indicating the properties which are white, cold, slimy, pellucid, lubricant, heavy, sweet, viscous, clear and sluggish. Their names and respective urinary findings are listed below.

Prameha type	Urinary findings
Udaka meha	Clear, plentiful, white, cold, odourless, watery
Ikṣvālikā	Very sweet, cold, somewhat slimy, turbid, resembles sugarcane juice
Sāndra meha	Precipitates develop in the container overnight
Sāndraprasāda meha	Remains partly clear and partly solidified
Śukla meha	White; resembles white flour
Śukra meha	Frequent passage; mixed with semen; resembles semen
Śitā meha	Very sweet, cold
Sikatā meha	Gravel-like particles are present
Śanair meha	Passage difficult, slow and without urge
Ālāla meha	Slimy, stringy, saliva-like

PITTAJA PRAMEHA[3]

Prameha due to pitta occurs due to simultaneous and multiple provocations. This combination occurs when a person takes hot, sour, salty, caustic and pungent food, eats during indigestion, loses temper, and meanwhile, gets exposed to the hot sun and fire. Pitta is perturbed immediately and gives rise to six types of prameha which are characterised by the six specific properties of pitta as indicated below:

Prameha type	Urinary findings
Kṣāra meha	Alkaline in smell, taste, touch and colour
Kāla meha	Hot and black
Nīla meha	Sour, colour like the wing of blue jay
Rakta meha	Hot, red, salty, fleshy smell
Manjiṣṭā meha	Frequent passage, fleshy smell, resembles extract of a red herb root

Hāridra meha	Yellow like the extract of haridrā and pungent

All the above types of pramehas are amenable to palliation.

VĀTAJA PRAMEHA[4]

Vāta is perturbed when a person takes astringent, pungent, bitter, rough, light or cold articles as food, indulges in excess sexual intercourse or physical exercise, undergoes too much fasting or evacuative therapy or venesection, suppresses natural urges, becomes excited or anxious, sustains injuries, keeps night vigils, or assumes abnormal body postures. The perturbed vāta mobilises muscle fat in the course of its body-wide movement and enters the urinary channels. Vātaja pramehas are classified on the basis of which body substance is mobilised and transferred to the urine by vāta.

Vātaja prameha may also manifest in two ways. In one form, it appears as kaphaja and progresses to vātaja through a pittaja stage; in the other, it starts as vātaja itself.

Prameha type	**Urinary findings**
Vasā meha	Muscle fat present
Majjā meha	Marrow appears
Hasti meha	Constant and excessive passage (like elephant's urination)
Madhu meha	Pale, astringent, sweet, rough: ojas is disturbed

All the pramehas, no matter which doṣa may be perturbed, share certain premonitory signs. These include matting of hair, sweetness in the mouth, burning sensation or lack of sensation in the hands and feet, dryness in the oral cavity and throat, fatigue, appearance of mucus in body orifices, attraction of bees and ants towards the body and urine, body odour, drowsiness and tendency to sleep. When chronic, pramehas may witness additional complaints such as diarrhea, fever, weakness, and boils of different types. The mainstay of treating the curable types of pramehas is evacuation and other doṣa-alleviating measures.

TREATMENT

GUIDEUNES

Among the many polyurias, the type with sweet urine is the most common. In this section, prameha refers to that type.

If the urine is sweet like honey and mucoid in consistency, it indicates that the disease has emerged from an excess of vāta following reducing measures or from the excess of kapha due to overeating and building-up procedures. When prameha of kaphaja and pittaja variety occurs following premonitory symptoms or the vataja type occurs on its own, the condition is not curable. If body fat is

severely disturbed, the pittaja variety can still be managed. However, prameha inherited from diabetic parents is incurable due to the defect in the parental seed. For that matter diseases running in families are not curable. The treating physician should also keep in mind that the seven types of boils associated with prameha should be handled by experts in surgical procedures.[5]

A prameha patient may be stout or thin; this has a bearing on the choice of treatment.[6] After the initial lubricant therapy, the stout patient should be administered evacuative measures which eliminate accumulated doṣas in the upward and downward directions. This should be followed by gradually enriched food lest complications such as abdominal distention, wasting and urinary disturbances should occur. The food enrichment should, however, be regulated according to the patient's digestive power. The thin patient who is unfit for evacuative therapy is a candidate for measures to settle the disturbed doṣas. This mainly consists of diet modifications: a variety of preparations of barley, soup of wild bird meat, śāli and ṣaṣ ṭika rice and bitter vegetables with the oil of dantī, mustard and linseed. Patients with kaphaja prameha should be given barley soaked in triphalā decoction at night, preparations of barley mixed with specific medications for kaphaja prameha or the meat of ass, horse, bull, swan and deer. In due course the kaphaja patient would also gain from evacuative measures, and the pittaja patient from purgation and alleviating therapy.

MEDICINAL FORMULATIONS

Formulations	Appropriate for which doṣa (disturbance) in prameha	Remarks
Ten decoctions[7]: e.g. Harītakī, kaṭphala, mustā and lodhra	Kapha	Each decoction has specific herbal ingredients; consumed with honey
Ten decoctions[8] E.g. Uśīra, lodhra, arjuna, etc., ending in candana	Pitta	Each decoction has specific herbal ingredients: some common with the anti-kaphaja formulation; consumed with honey
The above decoctions against kaphaja and pittaja prameha	Vāta	The ingredients cooked with oils and ghee for patients with vātaja prameha
Paste of powdered flowers of kampillaka, śāla etc., ending in kapittha[8]	Kapha and pitta	Consumed with āmalaka juice
Gokṣūra, aśmantaka,	Kapha and vāta	Cooked in oil

[7] [8]

somavalka etc., ending in candana		
Gokṣūra, aśmantaka, sōmavalka etc., ending in candana	Pitta	Cooked in ghee
Gokṣūra, aśmantaka, somavalka etc., ending in candana	Three doṣas	Cooked in oil and ghee
Triphalā, dāruharidrā, viśāla etc., ending in haridrā with its paste	All pramehas	Mixed with honey
Lodhra, śaṭī, puṣkaramūla etc., ending in plava (madhvāsava)	Kapha and pitta : also beneficial in pallor, piles, skin diseases	Boiled in water and concentrated; preserved with honey for a fortnight in a ghee-lined pot

Dantyāsava and bhallātakāsava are derived from madhvāsava.

GENERAL MEASURES[9]

A patient with prameha should quench his thirst by drinking water treated with sāra, kuśa, madhuka, triphalā, or honey. Various barley preparations and meat of animals and birds should be part of his diet. Indeed the regular eating of roasted, or roasted and powdered barley has a strong beneficial effect on prameha. Physical exercise, oil massage and bath, dermal application of the paste of ēla, aguru, candana, are also effective in controlling the disease. As the fluid, fat and kapha in the body are the causative agents of prameha, reducing measures should be tried as a rule in treating prameha of the kaphaja and pittaja variety. When vāta has accumulated its alleviation should be achieved by methods described earlier. At all times, one should refrain from making use of substances or practices which predispose to prameha. No mistakes should be made in diagnosing prameha which is distinct from conditions where the patient passes urine of red or deep yellow colour.

41 *Skin Diseases Including Leprosy (Kuṣṭha)*

There are seven types of kuṣṭha which are traceable to seven causes. These are the three doṣas which get perturbed, and four dūṣyas or body tissues (skin, muscle, blood and lymph) which are assailed by the perturbed doṣas. Leprosy or kuṣṭha due to any given cause can exhibit differences in the nature of pain, colour and symptoms, and call for different approaches in treatment; if such variations are regarded as separate entities, the types of leprosy would be innumerable except for the incurable type which has no subdivisions. Therefore a sevenfold classification of kuṣṭha is needed. However, kuṣṭha , regardless of type, spares no part of the body.

CAUSATION

There are certain general causes of kuṣṭha . Ingestion of hot and cold, or building and reducing substances in an irregular or contradictory manner, constant and abundant use of honey, jaggery, fish, radish etc., particularly during indigestion, consuming cilicima fish with milk or a diet of coarse grams such as hāyanaka and uddālaka with milk, curd, buttermilk, blackgram etc., recourse to intense physical activity, sexual intercourse or exposure to severe heat after heavy meals, bath in cold water after heavy exercise, exposure to heat or spell of fear, suppressing the urge to vomit, and eating again when the previously eaten, but undigested, food has not been eliminated, excessive lubricant therapy - all these events may perturb the three doṣas together and loosen the four body tissues such as skin. Lodged in the four tissues, the doṣas proceed to undermine them and give rise to kuṣṭha .[1]

SEVEN TYPES OF KUṢṬHA

Kuṣṭha has premonitory signs on the skin such as absence of, or profuse, sweating, roughness or smoothness, discolouration, pain, tingling, numbness or itching, goose-flesh, hot sensation, appearance of mucus at body orifices, severe pain in body parts which are the seat of injuries or suppuration, and the non-healing of small wounds. Following the early signs, the seven types of kuṣṭha present themselves in fullness.[2]

KAPĀLAKUṢṬHA

The features are rapid in onset and decay, coloured red or blackish red, rough, irregular and coarse margins, severely numb, with hairs standing erect, mild itch but much penetrating pain and burning, oozing pus and lymph laden with worms. Vāta is dominant.

AUDUMBARA

Audumbara appears as lesions with coppery colour or the colour of udumbara fruits, rapidly

progressive, hairs are thick and stiff, copious discharge of thick pus mixed with blood and lymph, suppuration associated with local warmth and worms as well as itching. Primarily pitta is perturbed.

MAṆḌALA

Slow to develop and decay, the tissue changes include elevated, thick ulcers with firm and yellow margins, white and red base, white hair lines and thick, whitish and greasy discharge in large quantity; worms are present. Primarily kapha is perturbed.

ṚṢYAJIHVA

Rapid in onset, progress and decay, the lesions are coarse and blackish with blue, yellow and coppery hues. There is little iching or discharge or worms, but severe burning sensation, and pain as if being pricked by needles. The centre is raised with a large border and many attendant boils. The overall shape resembles the tongue of an antelope, hence the name ṛṣyajihva. Mainly vāta and pitta are perturbed.

PUṆḌARĪKA

Quick to develop and decay, the ulcerous areas are white and red with red margins which are marked by red lines of blood vessels. The base bulges with plenty of thick discharge stained by blood and lymph. The suppuration is hot with the appearance of worms. The colour and rapid unfolding have given it its name. Perturbation of kapha and pitta underlie this type of leprosy.

SIDHMAKUṢṬHA

Coarse and reddish in appearance, with atrophied margins and a greasy base; the ulcers are several with little pain, itching, pus, lymph or worms. The causative factors are apparently mild. Vāta and kapha are disturbed.

KĀKAṆA

To begin with, the ulcers have the colour of gunjā seeds, but becomes multicoloured during evolution: it progresses to develop the vicious symptoms of all types of kuṣṭha . This is incurable unlike the other types which are curable. However, even curable forms of kuṣṭha may become incurable by improper treatment and the lack of a proper regimen. The change from curable to incurable outcome is accompanied by the generation of worms in the skin, muscle, blood, lymph, dead tissues and sweat. The worms destroy more tissues and give rise to further complications which perturb vāta, pitta and kapha.[3] In the terminal stage parts of the body decay and drop off. In addition, there is thirst, fever, diarrhea, loss of appetite, indigestion and severe weakness. The person who disregards the early stage of kuṣṭha as a curable disease stands in mortal danger as time passes.

OTHER SKIN DISORDERS[4] (KṢUDRA KUṢṬHAS)

Kṣudra kuṣṭha s include eleven disorders which vary in appearance and the disturbance of doṣas. They are listed below:

Ekakuṣṭha : An extensive area that appears as if covered by fish scales and does not sweat (vāta and kapha).

Carmākhhya: The skin is thick like an elephant's hide (vāta and kapha).

Kiṭibha: Black, uneven and rough like the surface of corn (vāta and kapha).

Vipādikā: Severe pains in the hands and feet as if they are breaking (vāta and kapha).

Alasaka: Red nodular swellings associated with itching (vāta and kapha).

Dadru: Raised area of skin with itching, redness and eruptions (pitta and kapha).

Carmadala: Raised patch with pain, exfoliative eruptions and itching (pitta and kapha).

Pāmā: Eruptions of white, red or black colour with severe itching (pitta and kapha).

Visphoṭa: Eruptions with delicate walls, white or red in colour (pitta and kapha).

śatāru: Reddish or blackish, the boils are many and give rise to pain and burning (pitta and kapha).

Vicarcikā: Blackish eruptions with profuse discharge and itching (kapha).

All types of kuṣṭhas and lesser skin diseases are caused by disturbed doṣas which can be inferred from the specific manifestations of the disease. Conversely, the clinical manifestations can be predicted if the disturbance of a specific doṣa or causation is known. The disturbance of vāta is indicated by coarseness, boring pain, emaciation, contracture, hardness, goose-flesh and blackish or reddish discolouration; that of pitta leads to heat, redness, discharge of pus, fleshy smell and the loss of extremities and organs; that of kapha is responsible for whitish colour, coldness, itching, heaviness, immobility, greasiness and the appearance of maggots.

TREATMENT

A type of kuṣṭha which is marked by the disturbance of one doṣa or vāta and kapha together is amenable to treatment. When the two dominant doṣas are kapha and pitta or vāta and pitta, the treatment is difficult. Finally, the full-blown stage with emaciation, loss of appetite, severe thirst and maggots over the body is incurable.

DIET[5]

Light cereals and bitter vegetables are very agreeable for patients with kuṣṭha . Preserved cereals, wild meat, greengram are also preferred. In the food, ghṛtas blended with bhallātaka, triphalā and nimba should be added. Other sour items, aquatic meat from marshy areas, jaggery and sesamum should be avoided.

Measures based on perturbed doṣas

The management of kuṣṭha dominated by vāta mandates the consumption of ghee; that by kapha calls for emesis and that by pitta needs purgation by the use of recommended drugs. Bloodletting may conclude the procedures in the pittaja type of kuṣṭha . If the accumulation of doṣa is severe, the evacuative procedures may be repeated provided the patient's general condition permits these. At the end of these procedures, a medicated enema without lubricant additives should be given. In addition, a lubricant enema may also be given to a patient with vāta disturbance. Medicated snuff and smoking, both discussed earlier, have a role when the disease affects the head, and worms are present.[6] The evacuative measures and bitter drugs applied in vāta-kaphaja kuṣṭha may be equally beneficial in the

pittaja variety.[7]

Formulations for treating skin lesions[8](ingestion)

Some of the medicinal formulations for treating skin lesions are listed below:8

Formulations	Actions	Remarks
Dāruharidrā or rasāñjana with cow's urine	Relieves kuṣṭha	To be taken for a month
Roots of paṭola, indravāruṇi, triphalā etc., ending in śuṇṭhi	Relieves kuṣṭha and other illnesses such as piles, swellings etc.	Consumed as decoction in water for six days
Mustā, trikaṭu, triphalā etc., ending in mūrvā (mustādi cūrṇa)	Proven remedy for kuṣṭha	Powdered drugs suspended in liquid and mixed with honey and ghee
Triphalā, ativiṣā, kaṭukā etc., ending in bhūnimba	Good for patients with numbness	Powdered
Makṣika dhātu (copper ore), juice	Beneficial in seventeen	Sometimes sulphur is also added

of jāti, urine	types of kuṣṭha	to the formulation; diamond, śilājatu or yogarāja may be added on occasion
Khadira, devadāru, triphalā etc., ending in nagakēsara (madhvāsava)	Relieves kuṣṭha	Staged processing according to protocol; over one month for preparation
Khadira, triphalā, trikaṭu etc., ending in guḍūcī (kanaka bindvārista)	Relieves major skin disorders in one month and minor ones in two weeks. Also beneficial in phthisis, prameha etc.	Staged processing according to protocol; over one month for preparation
Harītakī, bibhītaka, āmalakī etc., ending in masūra dal	Relieves vātaja–pittaja kuṣṭha, abdominal lumps, giddiness etc.	Staged processing according to protocol
i. Nimba, paṭola, dāruharidrā ending in trāyamāna[9] ii. Candana, kirātatikta, pippalī etc., ending in indrayava	Relives kuṣṭha, piles, abdominal lumps, swelling, boils etc.	i. Boiled in water and concentrated; mixed with paste of ii. cooked with ghee
Saptaparṇa, prativiṣā, āragvadha etc; ending in trāyamāṇa[10] (mahātiktaka ghṛta)	Relieves kuṣṭha with dominant rakta pitta, jaundice, insanity, jaundice etc.	Paste of herbs diluted in water and taken with āmalakī fruit juice and ghee
Khadira, śimśapa, asana etc., ending in saptaparṇa[11] (mahākhadira ghṛta)	Excellent formula for kuṣṭha	Boiled and concentrated aqueous decoction of herbs; mixed with juice of āmalakī fruit and ghee; for ingestion and massage
Nimba, viḍaṅga, cow's urine	Beneficial in advanced kuṣṭha where body parts drop off	For ingestion, local application
Vāsā, kuṭaja, saptaparṇa etc., ending in khadira	Beneficial in kuṣṭha and worm infestation	With cow's urine; for ingestion and local application

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Viḍaṅga and khadira	Beneficial in kuṣṭha and worm infestation	Used in food, drinks, fumigation and local application
Triphalā, nimba, paṭola etc., ending in haridrā	Relieves kaphaja and pittaja kuṣṭha	Cooked with ghee; relieves vāta kuṣṭha also
Chakramarda,[12] viḍaṅga, haridrā ending in kuṣṭha	Relieves kaphaja and pittaja kuṣṭha	Cooked with ghee; relieves vāta kuṣṭha also

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Formulations for treating skin lesions (Local application, massage, anointing, bath etc.)

Formulations	Actions	Remarks
Dantī, trivṛtā, karavīra etc., ending in nimba[13]	Local relief	Hard, diseased patches fomented, debrided; leeches also applicable: anesthetic, stiff patches abraded with brushes of herbs. In anesthetic, old, stable patches, the patient should be given a prior antidote and then the poison applied to the patch, followed by the antidote again.
Elā, kuṣṭha, dāruharidrā etc., ending in harītakī[14]	Local relief	Powdered and made into a paste
Citraka, elā, nimba etc., ending in śuṇṭhi	Relieves maṇḍala kuṣṭha	Powdered and processed with palāśa and cow's urine; exposed to sun after application
Māmsī, marica, salt etc., ending in alkali of palāśa	Eradicates kuṣṭha	Made into a paste
Powders of tin, lead, iron etc., ending in bṛhati	Relieves mandala kuṣṭha	Metal–herbal complex as a paste

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Juice of alligator (godhā), salt and cow's urine; devadāru	Relieves maṇḍala kuṣṭha	Made into a paste
Alkali of kadalī, palāśa, pāṭalī etc., used to cook meat with flower as facilitator	Relieves maṇḍala kuṣṭha with worms	Applied as fermented preparation and exposed to sun
Mustā, madana, triphalā etc., ending in saptaparṇa	Relieves kuṣṭha, skin disorders, swelling	Decoction for systemic and local use
Kuṣṭha, karañja seeds, cakramarda	Relieves kuṣṭha	Made into a paste
Cakramarda seeds, rock salt, rasāñjana etc., ending in tender jāti leaves	Relieves kuṣṭha	Made into a paste
Lodhra, dhātaki flower, indrayava etc., ending in jāti	Relieves kuṣṭha	Made into a paste
Śirīṣa bark, cotton flower, āragvadha etc., ending in kākamācī	Relieves kuṣṭha	Made into a paste of four types
Dāruharidrā, rasāñjana, and five other herbal combinations [15]	Relieves kuṣṭha	Prepared according to protocol. Used as paste, rubbing powder, added to bath water and to cooking ghee
Karavīra, kuṭaja, viḍaṅga etc., ending in kaṭukā oil[16] (śvetakaravīra pallavādya taila)	Relieves kuṣṭha	Paste applied with cow's urine
Kuṣṭha, arka, tuttha etc., ending in dāruharidrā	Relieves kuṣṭha	As oil for ingestion or as paste for local applications
Karavīra, cow's urine, citraka, viḍaṅga oil	Relieves kuṣṭha	Juice of white karavīra added

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Bitter gourd seeds, tuttha (two types), rocana etc., ending in rohiṇi (tiktekṣvākyādi taila)	Relieves itching, vāta and kapha	Cooked in mustard oil to a paste and applied with cow's urine locally
Svarnaksīrī, elā, bhārgī etc., ending in rock salt (kanakakṣīri taila)	Effectively relieves maṇḍala kuṣṭha with worms	Paste processed with mustard or sesame oil. Preserved with cow's urine in bitter gourd container
Kuṣṭha, tamālapatra, marica etc., ending in kāsīsa (sidhme lepa) applied	Relieves leucoderma as well	Paste mixed with oil and preserved in copper container: and lesions exposed to sun. No bath for one month
Jīvantī, manjiṣṭā, dāruharidrā etc., ending in tuttha (vipādikāhara ghṛta/taila)	Cures vipādikā and other types	Processing involves ghee, sarja rasa and bees wax
Six different pastes. E.g. yeast, hog's blood, pṛthvīkā and rock salt; consisting of lākṣā, rasāñjana, elā, punarṇava [16]	Relieves vāta-kaphaja types of kuṣṭha	Applied with diluted curd
Other preparations of herbs [17]		Applied as paste, ointment, or added to bath water

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LEUCODERMA (ŚVITRA)[18]

Treatment begins with purgation followed by lubricant therapy. The patient should then take the juice of malapū with jaggery and expose himself to the sun for three days. Any eruptions should be punctured and the patient administered a decoction of malapū, asana, priyangu and śatapuṣpā every morning for a fortnight. Whatever is beneficial in the treatment of leprosy may also work for treating leucoderma. Pastes based on realgar, charred bone of ass, alkali prepared from jāti flower bud, nīlotpala, radish, malapū and seeds of bākucī are also found effective. In rare cases, bloodletting, reducing measures and the ingestion of fried grain powder may be beneficial.

Patches of leucoderma may have red, rosy or white colour, which indicate the diseased state of blood, muscle and fat, respectively. They result from the disturbance of three doṣas. The curable variety has no red hair, is pale, elevated toward the centre and of recent onset. Long duration, red hair and extensive involvement indicate incurability. Unethical conduct, sinful activities, effect of past deeds and the ingestion of unwholesome food are among the causes of leucoderma.

42 *Phthisis (Śoṣa)*

CAUSES

Phthisis has four causes: excessive physical exertion, suppression of natural urges, emaciation and the ingestion of improper food.

Excessive physical exertion occurs in different circumstances. A weak person fighting against a powerful one, trying to use too large a bow, carrying a heavy load, talking too much, swimming or travelling long distances, undergoing excessive anointing followed by massage, or suffering from assault is likely to damage his chest. Vāta in the chest then gets perturbed and in turn, disturbs kapha which also resides in the chest. Pitta too is not unaffected. The vāta carries the disturbed doṣas in the upward, downward and outward directions from the gut and produces characteristic symptoms. In the downward course to the stomach, disorders of the chest and stomach including aversion to food arise; in the upward course to the throat, irritation and hoarseness of voice appear. When the channels of the vital breath are involved, shortness of breath and nasal congestion occur; when the disturbed vāta reaches the head, severe headache is experienced. The perturbed doṣas and resultant cough exacerbate the chest condition and lead to the coughing up of blood, which further weakens the patient and produces the full picture of phthisis. It is therefore essential that one's level of physical activity is governed by one's capacity.[1]

Another cause is the suppression of natural urges. The urge for the passage of urine, flatus and feces tends to be resisted when one is in the company of the king, master or teacher; it also happens when one is among scholars, gamblers or women, and travelling in rickety vehicles, and occasionally out of fear, regard or disgust for surroundings, and shame. The result is the perturbation of vāta which in turn disturbs pitta and kapha and moves in the upward, downward and circular directions. When a part of this doṣa procession enters different organs, different clinical signs appear. This explains such diverse manifestations as bodyache, diarrhea or constipation, pain in the shoulder and sides of the chest, cough and shortness of breath, headache, hoarseness of voice and nasal congestion. These disorders rob the patient of strength and cause phthisis.[2]

Emaciation and wasting is yet another cause of phthisis. The normal intake of food is upset by the excess of emotions such as grief, anxiety, ambition, fear, anger and envy. The emaciation which may result would be aggravated by consuming food and drinks of rough quality. Some individuals, who are weak from birth, may suffer wasting due to fasting or insufficient food. As a consequence of wasting, the rasa which abides in the heart is depleted and phthisis results.

While the four causes are dominant, one should also take note of the role of a free and easy

lifestyle in giving rise to phthisis. A passionate individual who spends himself in sexual excesses loses much semen; if his passion and sexual activity still remain undiminished, vāta enters his blood vessels during activity and causes the transit of blood through the seminal channels. Because of the loss of semen, passage of blood and the perturbation of vāta, roughness in the body increases and the patient's joints become lax. The perturbed vāta unsettles kapha and pitta and brings about a number of changes such as depletion of muscles and blood, fever, shortness of breath, cough and expectoration of kapha and pitta, pain in the joints and sides of the chest, loss of appetite and indigestion, hoarseness of voice and nasal congestion. Severe cough damages the chest further and causes the appearance of blood in sputum and general debility. Phthisis is the next step beyond this stage.[3]

The fourth cause - impropriety in food - may relate to its nature, method of preparation, combination of items, quality, place, time, rules on dietetics and the relative imbalance among the patient's doṣas. The unbalanced doṣas move in such a manner that the openings of the channels of various dhātus are occluded, and whatever is eaten is not transformed into dhātus but merely into urine and feces. Indeed, feces becomes a supportive mala for a patient with phthisis. Deprived of the nourishment of dhātus, such a patient deteriorates and the three perturbed doṣas play their full destructive role. The chest suffers greatly with the appearance of blood in sputum and the patient wastes away. The disease is so deadly that it is called rājayakṣmā or the king of diseases.[4]

PREMONITORY SIGNS AND CLINICAL COURSE[5]

Phthisis, regardless of its exact cause, has premonitory signs which include: nasal congestion and sneezing, aversion to food, sweetness in the mouth, aversion during meals, high degree of irritability, nausea after meals, intermittent vomiting during meals, puffiness of face and feet, pallor, heightened libido, dislike for one's own body and peculiar dreams. These are followed by the appearance of the eleven clinical features of phthisis which are heaviness of head, shortness of breath, cough, hoarse voice, vomiting of sputum, coughing up of blood, pain in the chest, pain in the shoulder, fever, loss of appetite and diarrhea.

The outlook for patients is not uniformly gloomy. Patients who are still strong and whose muscles and blood are not depleted are curable because their strength dwarfs the many clinical features which assail them. In contrast, the severely weak patient with wasted muscles and blood will have numerous symptoms which may even become fatal because of his poor resistance to the severity of disease. A patient whose disease is advanced and exhibits fatal signs is better left alone. The practitioner who has grasped the subject of phthisis, its cause, premonitory signs and symptoms is fit to be a royal physician.

BODY PROCESSES AS THE BASIS OF CLINICAL FEATURES[6]

While the dhātus of the body are nourished by the contents of their respective channels they are, at the same time, being consumed by their respective fires. When the channels get occluded, blood accumulates and escapes and the fires dwindle in the deprived dhātus. Food eaten during this period fails to evolve into dhātu and turns into waste. As the constituents decline and the body become weaker, it is the wastes or stools which support the patient's body. Thanks to the blocked channels, rasa also accumulates and escapes through cough and expectoration. This is followed by the appearance of eleven symptoms: cough, expectoration, pain in the shoulders, pain in the sides, fever, altered voice, headache, blood in the sputum, shortness of breath, diarrhea and loss of appetite.

The patients complain of severe congestion of the nose, which is caused by kapha, rakta or pitta located at the root of the nose rushing towards vāta that is accumulated in the head. This gives rise to several symptoms including headache, nasal disorders, fever, cough with expectoration and hoarse voice. What the patient brings out as expectoration is rasa which appears slimy, viscous and smelly of muscle. The hoarseness of voice caused by the three doṣas is distinctive and is aggravated by severe cough. An irregular diet weakens the patient who begins to bring up blood in his sputum. This happens because the blood channels to the muscles and other dhātus are blocked and blood rushes to the throat. Shortness of breath is caused by the obstruction brought about by vāta and kapha in the chest. When doṣas impair the digestive fire, the patient loses appetite and develops diarrhea with mucus in stools. When the disturbed doṣas lodge themselves in the tongue and heart they produce anorexia and characteristic tastes in the mouth. In full-blown phthisis, all three doṣas are disturbed.

TREATMENT[7]

DIET

Diet should recieve careful attention. It should consist of barley preparations, cereals at least a year old, meat soup of quail, partridge or cock. It should contain fat and additives to make it salty, sour and hot. Goat meat soup with ingredients such as pippalī, barley, horsegram, ginger, pomegranates and fruits of āmalakī is also suitable. An alcoholic drink such as vāruṇī, water boiled with pancamūla, coriander, ginger or the parṇī group of herbs should be taken for drinks.

MEAT AND WINE IN DIET

Regarding meats, the flesh of carnivores is especially promotive for the weak and emaciated patients. As the meat of carnivores may be unacceptable, if not revolting, it may be necessary to beguile some by passing it off as the meat of other birds and animals. For example, the meat of vulture, crow, serpent, fox, lion and hyena should be presented as that of peacock, partridge, fish, rabbit and deer. Elephant or horse meat should be heavily spiced and passed off as that of buffalo. If the patient learns the truth and feels sick, he should desist from eating further, and should vomit what has been consumed.

The physician should consult the list of meats given earlier and choose those which are most suitable for the patient and the state of disturbed doṣas. In fact, a meat-rich diet, wines after meals, and a positive attitude can successfully combat phthisis. Because of the properties of sharpness, dryness and subtleness, wines succeed in opening body channels and reestablishing the flow of nutrients to the dhātus. This is the mechanism of the positive effect of wines in an emaciated patient with phthisis.

GENERAL MEASURES

Fomentation of the head, chest and sides of the body by the bolus or tube method should be carried out with specified products of vegetable and animal origin. For pain in the head and sides of the body, poultices with prescribed meat and herbal items would be beneficial: so would a paste of śatapuṣpa, madhuka or candana, blended with ghee. There are also four ointments based, respectively, on balā, māmsī, vīra and śatāvarī, which are effective against pain in the head, shoulders and sides. Oil massage, medicated smoke and lubricant therapy may also be beneficial. In intractable pain in the head, shoulder and sides, application of leeches, horns, or bloodletting should

be performed followed by rubbing with an ointment based on padmaka and ghee with several other herbal extracts. Equally useful for massage in this context would be an ointment based on prapauṇḍarīka and other herbs as well as candanādi oil processed a hundred times.

EVACUATIVE PROCEDURES[8]

Patients who have excessive accumulation of doṣas should be treated with emesis and purgation. However, the emetics and purgatives should have lubricant substances added to them and should be carefully chosen lest purgation prove dangerous to a patient with inadequate strength.

FORMULATIONS[9]

Appropriate formulations should be given after the evacuative measures.

Formulations	Actions	Remarks
Balā and śālaparṇī or pippalī or madhuka	Improves voice	Processed with ghee for nasal application
Prapauṇḍarīka, madhuka etc., ending in balā	Improves voice; also relieves cough, dyspnea, pain	Prepared with ghee for nasal application

Dates, mṛdvika, pippalī	Improves voice, cough, fever	Prepared with ghee, sugar and honey
Daśamūla, pippalī, honey	Improves voice, relieves pain in the head and sides, fever, shortness of breath	Prepared with fresh ghee
i. Kharjūra, pippalī, drakṣa etc., ending in durālabhā ii. Triphalā, pippalī, mustā etc., ending in sṛṇgāṭa iii. Vīra, śaṭī, puṣkaramūla, surasā iv. Dry ginger, citraka, parched paddy etc., ending in āmalakī	Relieves cough, shortness of breath, fever, pain on the sides	All four formulations are prepared with sugar and jaggery and consumed with honey and ghee
i. Durālabhā, gokṣurā, four parṇīs etc., ending in parpaṭa ii. Śaṭī, puṣkaramūla, pippalī etc., ending in sārivā	Relieves fever, pain on the sides, cough, vomiting and diarrhea	Group i. boiled in water and concentrated. Mixed with a paste of ii. and cooked with milk and ghee
Jīvantī, madhuka, drākṣa etc., ending in pippalī	Alleviates all the symptoms of phthisis	Powdered and processed with ghee
i. Balā, śālaparṇī, pṛṣniparṇī etc., ending in kaṇṭakārī ii. Dry ginger, drākṣa, kharjūra etc., ending in pippalī	Improves voice, fever and cough	Group i. boiled and the decoction cooked with group ii. and milk. Honey added
Pāṭhā, bilva, yavāni with buttermilk Duralābhā, śuṇṭhī, pāṭhā with wine Pulped seed of jambū, āmra, bilva etc. ending in śuṇṭhī.	Controls diarrhea	Consumed with gruel supernatant
Tender leaves of vetasa, arjuna, jambu etc., ending in dāḍima	Astringent: useful in diarrhea	Processed with fats, sour substances and salt

i. Tvak, mustā, elā, dhānyaka ii. Mustā, āmalaka, tvak iii. Bark of dāruharidrā, yavāni iv. Tejohvā, pippalī v. Yavāni, tintiḍīka	Improves appetite; dental hygiene	All five formulations used as pills or powder for cleaning mouth, or as gargles twice a day
Yavāni, tintiḍīka, śuṇṭhī etc., ending in tvak (yavānīsādava)	Cleanses tongue, improves appetite, relieves cough, constipation, piles etc.	Powdered together and used for oral hygiene
Tālīsapatra, marica, śuṇṭhī etc., ending in pippalī (tālīśādya cūrṇa and guṭikā)	Improves appetite, relieves heart disease, splenic enlargement, fever	Powdered together and made into pills with sugar candy
Pippalī, pippalīmūla, cavya etc., ending in śuṇṭhī	Cleanses body channels	Cooked in ghee with yavakśāra and milk
Rāsnā, balā, gokṣūra, etc., ending in pippalī	Relieves phthisis	Cooked in ghee and milk

External application[10]

The patient should be massaged and placed in a tub filled with water, milk and lubricant substances. On coming out, he should be given lubricant therapy again and massaged gently. A powder prepared from jīvantī and other herbs, rice, blackgram, sesamum etc., mixed with barley powder, and blended with curd and honey would be beneficial for rubbing on the body of the patient. He should take bath in water boiled with jīvanīya plants and cooled appropriately to suit the season.

CONCLUSION

Perfumes, garlands, clothes and ornaments enhance the patient's morale; it should be lifted further by the worship of gods and reverence for elders. The company of friends, beautiful women, music and good conduct are powerful aids to recovery. Vedic sacrifices, in accordance with ancient practice, should also be conducted to recover from phthisis.

43 *Insanity (Unmāda)*

Insanity is of five types when classified on the basis of its cause. The causes are the three doṣas, combination of the doṣas and external factors. However, if one classifies insanity simply as internally and externally caused, or as curable and incurable, there are only two types.

INTERNALLY CAUSED INSANITY

The insanity caused by doṣas, singly or in combination, occurs in individuals who are predisposed to the disorder. The predisposing factors are: a cowardly or worrying nature, neglecting rules of dietetics and eating unclean and rotten food, improper conduct of tāntric rituals, adoption of abnormal body postures, emaciation, frequent injuries, and agitation of the mind by passions. All these factors destabilise the mind and intellect, and perturb doṣas which target the heart and occlude the channels (which are the conduits of the mind). This is what triggers insanity which should be seen as the instability of the mind, intellect, consciousness, knowledge, memory, loyalty, habits, activities and conduct.[1] It has a number of premonitory signs and symptoms which include a feeling of emptiness in the head, anxious eyes, ringing in the ears, increased ventilation, salivation, aversion to food, nausea and indigestion, sense of constriction in the heart, confusion and excitement without reason, constant goose-flesh, urticaria, recurrent fever, poker face, aberrant mental activity, morbid dreams such as moving on unstable objects, riding over the wheel of an oil press or drowning in a whirlpool, and divergent movement of eyes. When full-blown insanity of the vātaja type follows, other clinical features appear including constant perambulation, unexpected movement of eyes, eyebrows, shoulders, arms, legs and other body parts, unceasing and irrational talk, frequent and inappropriate actions such as smiling, laughing, dancing, singing and playing musical instruments, grotesque imitation of the sounds of musical instruments, moving on imaginary vehicles, decoration with non-decorative articles, pining to eat what is unavailable and hating what is at hand, loss of weight, and protruding and congested eyes. This disorder would also be amenable to treatment by vāta-alleviating agents.[2]

When the cause is disturbed pitta, the clinical features of insanity are characteristic. These would include resentment, anger, inappropriate excitement, hurting one's own people or others with weapons, stones or fist, rushing around, proneness to resort to shade and take cold water and food,

feeling of severe heat for a long period, coppery, greenish or yellowish discolouration of eyes, and response to pitta-relieving measures.[3]

In kaphaja insanity, the picture is different. The patient prefers to stand silent and alone, in one place, walks little and prefers to sleep, saliva drools and mucus streams from the nose, he/she avoids cleanliness and presents a loathsome appearance. The face is puffy and eyes white, watery and dirty and appetite poor. The patient is likely to respond to kapha-relieving treatment.[4]

When the three doṣas are perturbed, the insanity belongs to the sannipāta type which is rarely curable. The principles of treating the three curable types are lubrication, fomentation, evacuative measures, medicated smoking, fumigation, painting the eyes with collyrium, inhalation of medicinal extracts, massage, pre-and post-bath anointing, beating, holding in custody, startling, causing surprise and oblivion, fasting, bloodletting and a diet according to the status of disturbed doṣas.[5]

EXTERNALLY CAUSED INSANITY

This type of insanity differs not only in cause but also in premonitory signs, symptoms and approaches to therapy. Some experts attribute the cause to the effect of karma in a past life, but Ātreya authoritatively attributes it to imprudent conduct. It is this kind of conduct which prompts a person to slight the gods, sages, teachers, ancestors, semi-divine beings and gifted individuals, and conduct himself in an undesirable and inappropriate manner. Having hurt his own self to begin with, the damage is aggravated by the gods. The premonitory signs of this insanity include the tendency for violence towards gods, cows, brāhmaṇas and saints, anger and cruelty, disinterestedness, impairment of colour, ojas and strength, and morbid dreams relating to the gods. Preceptors, gods, gifted individuals, sages and others whose insult may lead to insanity bring about the harmful effect by different means and in different contexts and locations. An illustrative list of these contexts and locations include the first stage in committing a sinful act, the moment when the result of a previous karma matures, living alone in an uninhabited house, indifference during twilight hours, sexual activity during new moon and full moon or when a woman has monthly periods, faulty chanting of mantras and conduct of religious rituals, breaking vows including that of celibacy, times of war and the devastation of home and country, eclipses, time of delivery of women, unclean and improper contact by various animals, procedures such as bloodletting and evacuation, going to places of worship with a dirty body and mind, leaving exposed meat, honey, sesamum, jaggery and wine when a meal is over, roaming aimlessly in the town, at crossroads, gardens, slaughter houses and cremation grounds at night, disparaging gods, preceptors, sages and other honoured individuals, making errors in reciting scriptures and performing unwholesome acts.[6] When the disease progresses, he would show superhuman energy and strength, extraordinary powers of memory, speech and comprehension, and unpredictable onset of symptoms. The types of insanity caused by the will of gods, sages, ancestors, musical and other demigods, demons and superdemons have different manifestations on the basis of which they may be distinguished. They find suitable human victims at vulnerable moments of the day or month and turn them into patients with characteristic cluster of symptoms. Invisible as they are, they enter the victim's body quickly and without physical disturbance just as the sun casts a reflection in a mirror. To illustrate, those made insane by the will of musical demigods would hunger for food and drinks, garlands, incense, perfume, colourful clothes, music, dance and merry tales, whereas the victims of demons would be averse to sleep, food and drinks but nevertheless remain very strong and demanding weapons, blood, flesh and terrorise people.

The conduct of the insane could provide a clue to the external impulse (such as violence, enjoyment or reverence) which drove the patient to insanity. If violence was the underlying factor, the patient could fall into fire or water or a hollow in the ground; he could also perpetrate violence against himself with weapons. A suicidal condition would be resistant to treatment. But those caused by the impulse to enjoyment and reverence are curable by various measures including the chanting of mantras, sporting medicinal roots and precious stones, performing religious rituals, keeping fasts, taking vows, conducting rituals of atonement, offering prayers for blessings and visiting places of pilgrimage.[7]

While discussing externally induced insanity one should bear in mind that neither the gods, gandharvas, or demons can touch a person who is not made vulnerable by his own actions. It avails nothing to incriminate the gods and others for the onset of insanity, when the cause is one's own imprudent conduct. The key to happiness and unhappiness, and health and ill health lies in one's own hands.[8]

TREATMENT[9]

EVACUATIVE AND OTHER PHYSICAL MEASURES

Administration of lubricant substances followed by evacuation by similar substances should be carried out in the vātaja type of insanity which is compounded by the occlusion of channels. In the types caused by perturbed kapha and pitta, emesis and purgation should be ordered after prior lubricant and fomenting procedures. These should be followed by non-lubricant and lubricant enemas and head evacuation. Some of these procedures may have to be repeated in case the perturbation of doṣas persists.

If all the evacuative measures fail, application of irritants to the nose and eyes, thrashing and physical restraint with firm but soft cotton bandages in a dark and isolated room which has no dangerous articles such as rods of iron or wooden sticks should be considered. Ointments, massage, medicated smoke and ingestion of ghee are beneficial in restoring the mind, intellect, memory and awareness to normalcy.

FORMULATIONS[10]

Formulations	Actions	Remarks
Hiṅgu, suvarcalā, trikaṭu	Relieves insanity	Cooked with ghee in cow's urine
Viśāla, triphalā, hareṇuka etc., ending in padmaka (kalyāṇaka ghṛta) (26 items)	Relieves a number of disorders including epilepsy, phthisis, piles, dysuria, tertian and quartan fever etc; prolongs lifespan; effective for pumsavana	Cooked in ghee and water as per protocol

i. Śalaparṇī added to the 26 herbal drugs in kalyāṇaka ghṛta. ii. Vīra, māṣa, kākolī etc., ending in māda (mahākalyāṇaka ghṛta)	Relieves sannipāta type of insanity; promotes bulk	Group i drugs boiled in water; cooked further with ghee; milk and paste of ii. added
Jaṭāmānsi, harītakī, bhūtakeśī etc., ending in śālaparṇī	Relieves quartan fever, insanity, seizures, epilepsy	Cooked in ghee
Garlic, harītakī, trikaṭu (laśunadya ghṛta type 1)	Relieves all types of insanity, epilepsy and intermittent fever	Processed with ash of cow-hide, milk, urine, old ghee, asafoetida and honey as per protocol: for ingestion, anointing or nasal application
Garlic, ten roots (daśamūla) boiled and concentrated in water; juice of jujube, radish, vṛkṣāmla etc., ending in sour gruel and paste of triphalā, devadāru, rock salt etc., ending in amlavetasa added (laśunādya ghṛta type 2)	Relieves all types of insanity and several other ailments such as hernia, piles, splenic enlargement, female genital complaints	Processed in three stages. The second stage involves ghee and garlic juice
Hiṅgu, hiṅguparṇi, kāyasthā etc., ending in vayastha	Overcomes seizures, insanity	Cooked in ghee more than ten years old. Ghee older than hundred years highly efficacious
Śirīṣa, madhūka, hiṅgu etc., ending in kuṣṭha	Irritant	Powdered and blended with goat's urine; used for nasal and ophthalmic application
Trikaṭu, haridrā, manjiṣṭha etc., ending in śirīṣa	Irritant	Powdered and used intranasally and for ophthalmic application

Apāmārga, hiṅgu, haratāla etc., ending in marica	Applied to the eyes in epilepsy, insanity as an irritant	Powdered with the bile of cow and fox and made into rods for ophthalmic application
White mustard, vacā, hiṅgu etc., ending in haridrā	Relieves epilepsy, insanity spells	Powdered and blended with goat's urine; used for ingestion, local application to the eye, in the nose, in bath water
Urine, bile, feces, skin, hairs, nails and hide of porcupine, owl, cat, fox and goat	Relieves insanity due to vāta and kapha	For shower, or nasal or ophthalmic application
Tiktaka and jīvanīya ghṛta	Relieves pittaja insanity	Bitter and promoting herbs cooked in ghee. The patient is confined to wind-free place; little meat and ghee are given

MISCELLANEOUS MEASURES [11]

Comforting or spiritual talk by friends might help in quietening a patient: in others the sheer surprise at some unexpected news or sight might be palliative. In resistant cases, painting with mustard oil and exposing to the sun, touching with a hot iron rod, whipping or scalding with hot oil or water in an isolated room, terrorising with toothless snakes, trained elephants or false news of an order for execution by the king should be tried. The fear for life is greater than the gravity of illness and may work to the patient's advantage. If the mind is assailed by desires, grief, jubilation, envy and other passions, every effort should be made to neutralise them by the appropriate policy by the physician.

In the type of insanity caused by external factors such as the will of gods and demigods, harsh measures have no place in treatment. Instead the administration of ghee, chanting of mantras, vedic rituals, offering gifts and propitiatory acts should be performed. Other actions include wearing on the person, auspicious roots and antidotes to poison, good conduct, reverence to teachers and brāhmaṇas, worship of the cow and gods, and the chanting of hymns. As epilepsy overlaps insanity in several respects including causation, the treatment for seizures may be applicable for insanity as well. Above all, the worship of Śiva, the lord of the universe, overcomes the fear of insanity. The return to normalcy in insanity is marked by the restoration of clear perception, clarity of intellect, presence of mind and the normal function of constituents.

44 *Epilepsy (Apasmāra)*

Epilepsy is a spell of unconsciousness, when the patient develops a grotesque appearance, and his memory, mind and intellect are temporarily suspended. It may be caused by the perturbation of the three doṣas either singly or unitedly. The predisposing factors for epilepsy are a mind agitated by rajas and tamas, perturbed and plentiful doṣas, improper food, wrongful practice of tantric rituals and the habitual use of aberrant body positions. When such factors are active, especially when rajas and tamas hold sway over the mind, the perturbed doṣas lodge in the heart which is the abode of the self and the sense organs. At this moment, emotions such as sexual desire, anger, fear, joy, sorrow and anxiety saturate the heart and sense organs, and throw the patient into an epileptic seizure.[1]

CLINICAL FEATURES

The premonitory signs and symptoms of epilepsy are well recognised. They include the twitching of eyebrows, abnormal eye movements, auditory hallucination, drooling of saliva and discharge from the nose, loss of appetite and indigestion, tightness in the heart region, bone pains, borborygmus, weakness, confusion, giddiness, seeing darkness, morbid dreams and fainting. Epileptic seizure follows the premonitory phase, and the perturbed doṣa influences the specific clinical features.

In vātaja epilepsy, the seizures occur often and the recovery of consciousness is rapid. The eyes protrude, the patient shrieks, with saliva foaming out of the mouth, the neck appears puffy, the hands and feet are unstable and the fingers twisted, nails, eyes, face and skin show reddish or blackish discolouration. The patient may have visions of unsteady, rough objects, and experience headache.[2] The condition responds to vāta-alleviating measures. When epilepsy is caused by perturbed pitta, the seizures are frequent and the recovery of consciousness immediate, but the patient makes a groaning sound and collapses on the floor. The nails, eyes, face and skin appear yellowish, greenish or coppery in colour. He sees red, fierce, shining and tremulous objects and responds to pitta-relieving treatment.[3] Kaphaja epilepsy is marked by slow onset of and slow recovery from seizures. The patient's facial expression is not grotesque even though saliva drools; the nails, eyes, face and skin are pale and he envisions white, heavy and greasy objects. The patient's condition is amenable to treatment by kapha alleviating therapy.[4] A combination of all the three perturbed doṣas is responsible for causing the sannipāta type of epilepsy. Epileptic patients, in general, benefit from evacuative or alleviating therapy, which may be chosen on the basis of curability and the patient's symptoms and the status of perturbed doṣas.

Legend has it that when human beings bolted from the terrible scene of Dakṣa's sacrifice, they had varied experiences which manifested in varied diseases. Epilepsy found victims among those who

came in contact with unholy creatures during their flight.

TREATMENT[5]

An epileptic should be kept away from water bodies, fire, trees and hills. The first line of treatment consists of prompt evacuative measures. The vātaja, pittaja and kaphaja varieties are treated, respectively, with enema, purgation and emesis. Once these procedures are over and the patient cleansed and settled, medical formulations should be administered.

Formulations for ingestion

Formulations	Actions	Remarks
Cowdung solution, sour curd, milk and urine (pancagavya ghṛta)	Relieves epilepsy, jaundice and fever	Cooked in ghee
i. Pancamūlas, triphalā, haridrā etc., ending in durālabhā ii. Bhārgī, pāṭha, trikaṭu etc., ending in	Beneficial in insanity, epilepsy, piles, abdominal lumps, jaundice, quartan fever	Group i. boiled in water and concentrated, mixed with a paste of group
madayāntikā (mahāpancagavya ghṛta)		ii. Cooked in cowdung juice, sour curd, milk and urine
Brāhmī juice, vacā, kuṣṭha, śankhapuṣpī	Relieves insanity, epilepsy, sins	Cooked in old ghee
Rock salt, asafoetida, urine of goat and bull	Relieves epilepsy, heart disease, ailments caused by planets	Cooked in ghee
Vacā, āragvadha, kaiḍarya etc., ending in palaṅkaṣa	Fruitful in kaphaja and vātaja epilepsy	Cooked in ghee
Oil, ghee and jīvanīya group of herbs	Relieves epilepsy	Cooked in milk
Ghee cooked in milk, sugarcane juice, kāśmarya juice and paste of jīvanīya herbs	Relieves vātaja and pittaja epilepsy	
Ghee cooked in the decoction of kāśa, vidāri, ikṣu and kuśa	Relieves vātaja and pittaja epilepsy	
Ghee cooked with the paste of madhuka and āmalakī juice	Alleviates pittaja epilepsy	

Formulations[6] for local application

Mustard oil cooked in goat's urine	Relieves epilepsy	For massage
Cowdung and cow's urine	Relieves epilepsy	Bath and body application
Oil, cow's urine, bark juice of kaṭabhi, nimba; kaṭvaṅga etc., ending in madhuśigru	Relieves epilepsy	For massage
Palaṅkaṣā, vacā, harītakī, etc., ending in kuṣṭha	Relieves epilepsy	Oil cooked with the herbs; processed with the stool of carnivorous birds
		and goat's urine; used as paste
Pippalī, fruits of lavaṇa, citra etc., ending in candana	Relieves epilepsy	Ground with dog's tissues and goat's urine. For anointing.
Apētarākṣasī, pūtanākeśī, kuṣṭha etc., ending in coraka	Relieves epilepsy	Powdered with urine. For topical use
Bhārgī, vacā, nāgadantī/ śvetā, śveta viṣāṇika jyotiṣmatī, nāgadantī	Relieves epilepsy	All three combinations are ground with urine and employed as nasal drops
Triphalā, trikaṭu, dāruharidra etc., ending in fruits of karanja	Relieves epilepsy	Oil cooked with the herbs and mixed with goat's urine for nasal application
Pippalī, vṛścikāli, kuṣṭha etc., ending in bhārgī	Relieves epilepsy	Powdered with salt and bhārgī for nasal application
Kāyasthā, greengrams reaped in autumn, mustā etc., ending in trikatu	Overcomes epilepsy, insanity, snake bite, drowning	Ground in goat's urine and rolled into rods for use as collyrium
Mustā, vayasthā, triphalā etc., ending in barley	Relieves epilepsy, in sanity intermittent fever and leucoderma	Ground with the urine of goat, bull and sheep and rolled into rods for use as collyrium
Beaks, feathers, feces of owl, mongoose, cat, vulture, snakes and crow	Activates the heart, opens channels and restores consciousness	Used for fumigation

DELUSIONAL STATE IN EPILEPSY[7]

On eating filthy eatables or articles with opposing qualities in excess, the doṣas reaching the heart are perturbed and interfere with the channels of the mind in a person who is under the shadow of rajas and tamas. His mind and intellect get clouded resulting in the delusion that the wholesome is unwholesome and the real is unreal. This is a serious malady which should be treated with evacuative

measures preceded by lubricant therapy and fomentation. Pancagavya ghṛta with the juice of brāhmī would be beneficial for him; so would medhya drugs such as śankhapuṣpī. Loving and trusted friends could also facilitate his recovery by providing company, understanding and moral support.

DISEASE BEGETTING DISEASE

A disease can become an agent for another disease in a chain reaction. There are many examples. High fever can lead to internal bleeding which in turn worsens fever; together they may give rise to phthisis. Splenic enlargement causes abdominal swelling which in turn paves the way for general swelling. Piles may bring on serious abdominal disorders including a lump in the abdomen. Nasal congestion may induce cough which may progress to wasting and eventually phthisis. In these instances, what is initially a disorder ends up as a cause for another disorder even though the primary disorder may or may not persist when the subsequent disorder appears. This kind of mix-up often occurs when the treatment is incorrect in so far as it assuages one disorder while provoking another. The correct treatment should compose a disorder without inciting another.[8]

A single cause may be responsible for several diseases or for no more than one. Conversely, one disease may be caused by many factors which may, in other circumstances, give rise to many diseases. For example, rough substances may bring on fever, giddiness and delirium, or only fever. Similarly, many substances including rough ones may cause fever alone or fever with other disorders.

The principle of non-exclusivity goes beyond causation and covers symptoms and therapy. One symptom may characterise a particular disease, but may appear as a part of a complex in other diseases; similarly many symptoms may feature in one disease or in many diseases. For example, fever of irregular onset and uncertain origin occurs in many diseases, but malignant fever can arise only on the background of fever. Numerous symptoms such as shortness of breath and hiccup are observed in association with fever while they are also present in other conditions unassociated with fever.

One notes a similar picture in regard to treatment. A therapeutic procedure may be applicable in a single disorder or many disorders. Similarly, several identical procedures may be called for in the treatment of a single or multiple diseases. To illustrate, reducing therapy assuages several stomach disorders; it may also settle a lone fever. On the other hand, several measures including a light diet may be advised for fever alone; alternatively, the very same measures may be useful in other disorders such as shortness of breath and hiccup unassociated with fever.[9]

An easily curable disease is one which is cured easily and quickly: the one which is difficult to cure involves greater effort and longer time. A disease for which only palliation is possible is not curable but does respond to palliative treatment: the incurable does not respond at all. A good physician should be vigilant even on the slightest fluctuations in the course of a disease while observing the body heat and function, physical strength and mind of the patient. When the perturbed doṣas spread from the gut to the dhātus and joints and the illness is prolonged, the treatment should not be rushed. A prudent physician should then assess the body heat and function as well as the strength of the patient before instituting gradual reducing measures to mobilise the perturbed and excess doṣas from the body compartment and bring them to the gut: thereafter elimination is easy through evacuative therapy.[10]

45 *Chest Injuries and their Sequelae (Kṣata Kṣiṇa)*

Clinical features[1]

Chest injuries should be recognised and treated properly lest phthisis should supervene at a later stage. The injuries can result from diverse agents such as excessive bowmanship, fall from heights, carrying heavy loads, fight with a stronger man, being hit by objects like rock, swimming across broad rivers, horseriding and vigorous dancing. It could also be caused by too much of loud reading and sexual activity in the absence of nutritious food. Chest injuries and their sequelae are marked by aches and pain in the chest and sides, loss of weight, strength and vigour, diminished appetite, diarrhea, fever and a general feeling of ill heath. The patient develops cough with expectoration of blackish or yellowish sputum which is stringy, plentiful and blood stained. His emaciation progresses in parallel with the diminution of stores of semen and ojas. In the wasted state, blood also appears in urine with pain in the sides, back and around the waist.

Treatment[2]

If the onset of symptoms is recent and the patient's digestive state is good, the outlook for treatment is satisfactory. If the symptoms dated back to more than a year, palliation could be achieved by treatment. However, if the patient has a full-blown picture of the disease with all the symptoms his condition is not curable and the physician should refrain from administering therapy.

Diet

The patient should take lac (lākṣā resin) with honey and wash it down with milk. When this combination is digested he should take his meals with milk and sugar. Wine may be substituted for honey if the patient has severe pain on the side and disturbed pitta. If his digestive power is good the meals should contain wheat flour, lac, ghee, beeswax, jīvanīya group of herbs, sugar and tvakṣīri. Barley powder cooked in milk and supplemented by ghee should be taken in the presence of fever; sugar, honey and fried and powdered grain with milk are also advisable.

If vāta is perturbed, the diet should include goat's fat cooked with wine and mixed with rock salt; if the patient is severely wasted following chest injury, the top creamy layer of milk with honey, ghee and sugar should supplement his diet. Other recommended ingredients include the meat of carnivorous animals, fried in ghee and mixed with pippalī and honey.

Powder of punarnavā, red śali rice and sugar cooked in grape juice, milk and ghee or taṇḍulīyaka

cooked with madhūka and madhuka in milk are effective in patients with active bleeding. Patients who develop wasting following chest injuries should be given rich drinks containing fried grain powder and honey along with a barley-based diet and ghee. There are several other items which should find a place in the diet of a patient with chest injury or suffering from its sequalae such as wasting. These include meat soup of wild animals, cow, buffalo, horse or elephant processed with sour fruits and various other preparations. The substances chosen for the diet depend on the digestive status of the patient.

Formulations[3]

Formulations	Actions	Remarks
Mustā, ativiṣā, pāṭhā, kuṭaja	Relieves diarrhea	Taken as a supplement of food
Ikṣvāḷikā, lotus tuber and stamens, candana	Promotes wound healing	Boiled in milk and mixed with honey
Madhūka, madhuka, drākṣā etc., ending in balā and bones	Relieves cough, pain in the sides	Mixed with ghee and honey

Elā, patra, tvak etc., ending in mṛdvīka (elādi guṭika)	Relieves cough, hiccup, shortness of breath, blood in sputum, splenic enlargement, chest wound, wasting	Powdered together, mixed with honey and made into pills
Testicle of cock or sparrow with vegetable juice or water or blood of wild animals	Beneficial in profuse bleeding	
Nyagrodha, udumbara, aśvattha etc., ending in aśvakarṇa	Promotes healing, chest wound and reduced semen	Boiled in milk and taken with śāli rice and ghee
Yaṣṭi, nāgabala and paste of payasyā, pippalī and vamśalocana	Promotes healing of chest wound	The first two boiled in ghee and milk, and mixed with the paste
i. Juices of kola and lac ii. Paste of aralu, dāruharidrā bark, and bark and fruit of kuṭaja	Promotes healing of chest wound	Juice of i. cooked with ghee and milk, and mixed with paste of ii.
Jīvaka, ṛṣabha, jīvantī etc., ending in abhiṣuka (amṛtaprāśa ghṛta)	Promotes strength; relieves cough, fever, heart disease, female genital disorders; assures male progeny	Herbs made into paste and mixed with juice of āmalakī, vidārī and sugarcane, soup of goat meat, milk and ghee; all cooked together. Honey, sugar, powdered patra, nāgakesara, tvak and marica added
i. Gokṣūra, uśīra, manjiṣṭa etc., ending in śālaparṇī. ii. Kapikachhu, jīvantī, meda etc., etc ending in lotus tuber. (śvadamṣtrādi ghṛta)	Relieves vāta–pitta, pain in the chest, phthisis, wasting, urinary complaints	Group i. boiled in water and concentrated; cooked with milk and paste of group ii. added

Madhuka, drākṣa and pippalī paste	Beneficial for the injured and wasted	Cooked in ghee; honey, sugar, fried flour grain added
i. Juice of āmalakī, vidārī, sugarcane and jīvanīya group, milk of goat and milk and ghee of cow. ii. Powdered tvakṣīrī, sugar and roasted paddy (sarpirguḍa 1)	Excellent in emaciation; also relieves phthisis, epilepsy, internal bleeding	Group i. cooked and honey and sugar added; this is mixed with group ii. and rolled into balls
i. Balā, vidārī, laghu pancamūla, leaf buds of five milky trees ii. Juice of vidārī group, goat's meat soup, ghee iii. Wheat powder, pippalī, vamśalocana, śṛṇgāṭaka (sarpirguḍa 2)	Relieves phthisis, chest injuries, exhaustion from any cause, blood in sputum, poor complexion	Decoction of i. prepared by boiling and mixed with ii. and cooked. Sugar and powder of iii. added with honey. Rolled into balls
Tvaksīrī, śrāvaṇī, drākṣa etc., ending in meda (sarpirguda 3)	Relieves cough, hiccup, phthisis, asthma, internal bleeding, emaciation	Powdered with milk, juices etc., ghee and cooked: honey and sugar added and rolled into balls
Āmalakī fruits, drākṣa, kapikacchu etc., ending in marica (sarpirguḍa 4)	Good for wasted patients	Powdered: boiled in milk, sesame oil, ghee and sugar. Rolled into balls
i. Cow's milk, vidārī juice, ghee, meat soup ii. Madhūka flowers, priyāla, vamśalocana, etc., ending in jīvanīya group, other herbal products, sugarcane juice (sarpirmodaka)	Effective for vāta and rakta pitta-induced disorders; chest injuries; emaciation; female genital disorders; abortions	Group i. cooked together; group ii. ground with sugarcane juice and added during cooking. Honey added and boluses prepared[5]

Rock salt, dry ginger, suvarcalā etc., ending in dhānyaka (saindhavādi cūrṇa)	Relieves pain, asthma: promotes strength	Powdered with sugar and used with food and drink
Dhānyaka, jīraka, ajamodā etc., ending in kapithha fruit pulp (ṣāḍava)	For patients with phthisis: improves appetite	Powdered and mixed with sugar. Used as a dietary item

In conclusion, it should be noted that diet and drinks are the most important measures in treating patients with chest injuries and their sequelae. The various medical formulations play an effective, supportive role. The physician should also observe that the therapeutic measures adopted for patients with phthisis and internal bleeding are more or less applicable to those with chest wounds and their

sequelae, the choice of a substance depending upon the digestive status of the patient.[4]

46 *Swelling (Śvayathu)*

Whether in normal or abnormal quantities, vāta, pitta and kapha are always present in the body. In the normal state the three doṣas perform critical functions which sustain body activities. Vāta upholds inspiration and expiration, the constant transformation of dhātus, elimination of impurities, movements of every kind and the spirit behind every activity. Pitta energises vision and digestion and underlies diverse urges and qualities such as hunger and thirst, heat, brightness and softness of the body, cheerfulness and intellect. The normal functions of kapha are to supply, wherever appropriate, lubrication, bonding, firmness, solidity, heaviness, potency, strength, tolerance, fortitude and non-covetousness. A negative turn of the three doṣas reflects in the corresponding decline of their respective functions and qualities. Conversely, a positive swing or aggravation never fails to register an increase in their functions and qualities.[1]

CLASSIFICATION

The doṣas play no small role in the genesis and course of swellings which are as common as they are varied. There are as many classifications as there are swellings. For example, they may be external or internal; they may be of three types according to the disturbance of doṣas, or of four types when all the three doṣas and an exogenous factor operate simultaneously. Internal or external, swellings can be grouped on the basis of their location in the whole body, in half of the body or in a specific organ. The number of types could rise to seven or eight by other kinds of permutations and combinations among doṣas, but what unifies all swellings is quite simply the presence of a bulge. Indeed, one need not be defensive about being unable to affix a classified label to a given swelling because the same perturbed doṣa can produce different disorders according to different causes and locations.[2]

SWELLINGS DUE TO EXTERNAL AND INTERNAL CAUSES

External swellings are caused by agents outside the body.[3] The causative agents include surgical and accidental injuries, exposure to heat, polluted air and snowfall, juice of flowers and fruits of bhallātaka, poisonous leaves, creepers and shrubs, deposits of poisonous insects on the body and assault by animals with their claws, teeth, horns *etc.* The external swellings differ in their causation and presentation from those of internal swellings; they respond in general to die application of

dressings, antitoxic drugs, application of heat or cold and the recitation of mantras.

Internal swellings, on the other hand, result from altogether different causes. These include the wrong application of procedures such as lubrication, fomentation, emesis, purgation, enema and nasal irrigation, debilitating illnesses such as cholera, shortness of breath with cough, phthisis, anemia, dropsy, profuse vaginal discharge, and anal fistula, suppression of natural urges, eating large qualities of unwholesome or forbidden food or abnormal articles like mud, and the poor management of women following delivery.[4] As one moves from these general causes to the three doṣas, a different picture emerges.

SWELLINGS DUE TO DISTURBED DOṢAS

Vāta being provoked by cold, rough, light and dry items of diet, exhaustion, fasting and emaciation, produces its effect as swelling by dominating skin, muscle, blood and other tissues. The swelling increases and decreases speedily and the affected part becomes red or blackish, or remains normal in colour. It may be pulsating or mobile; the skin on the surface may be rough or broken and the hair may be coarse. The patient may complain of sharp and incisive pain, or of ants crawling, or a mustard plaster being applied. The swelling regains previous shape after pitting on finger pressure, and subsides during the night. It also responds to oily and hot massage.

Pitta is disturbed by food which is hot, salty or sour, pungent and caustic, or eating when the stomach is upset. It may also be vitiated by exposure to heat from fire or sun. Once disturbed, pitta subdues the skin, muscle, blood or other tissues and shows up as swelling which is quick to appear and regress. The affected part is black, blue, yellow or coppery in hue, and is hot and soft on touch with coppery hair. It causes a burning sensation, excites sweat and characteristic smells, and tends to appear in the middle part of the body. The patient may have fever, thirst, diarrhea and yellow discolouration of the eyes and skin. Application of heat to the swelling brings comfort.

Kapha is perturbed by sweet, cold, rich and lubricant food, lack of physical activity and too much sleep. Thus perturbed, kapha dominates the skin, muscle, blood and other tissues and gives rise to swellings which appear and recede slowly and with difficulty. The swelling is immobile, pale, oily and smooth to touch with whitish hair on the surface. It tolerates touch and heat, causes itching and does not rebound after applying pressure. On cutting, it does not bleed but exudes a clear, slimy substance.

When two or all the three doṣas are disturbed, swellings with mixed signs and symptoms appear. The complications of swellings include vomiting, shortness of breath, loss of appetite, thirst, fever, diarrhea and debility. Swelling which begins on the feet and spreads upwards over the body, or starts on the face in women, are difficult to treat. Swellings associated with complications and/or present in the genitals of men or women are equally difficult to treat.

SWELLINGS CONFINED TO SITES AND ORGANS

Swellings of diverse characteristics - slow and rapid onset, painful and painless, coloured and colourless, simple and complex *etc.* - may appear locally in the throat, temple, neck, trunk, belly, genitals, and literally, from head to foot. Their identification in terms of the disturbance of specific doṣas should be made on the basis of established clinical experience.[5] Locally situated swellings are listed below:[6]

Head and neck

The perturbed doṣas give rise to several types of swellings of a serious nature as listed below:

Śālūka: Inside the throat; associated with noisy and difficult breathing.

Biḍālikā: Affects joints of the neck, chin, throat and respiratory passage, produces very painful swelling, burning and redness. If the neck is encircled, death is certain.

Tāluvidradhi: Inflamed palate with pain, redness and formation of pus. Two other varieties may occur above or below the tongue.

Upakuśa: Disturbed rakta and pitta affect the gums in this condition. The formation of abscess in the gums indicates the disturbance of kapha.

Galagaṇḍa: Uniform swelling on either side of the neck. However, if the swellings are multiple and discrete they are called gaṇḍamāla.

The swellings in the head and neck respond to head evacuation, purgation, medicated smoking, reducing measures and bloodletting. Swellings inside the mouth should be additionally managed with gargles and local massage.

SWELLINGS IN OTHER PARTS OF THE BODY

Abscesses

Localised swellings occur in many parts of the body and present distinctive characteristics. Generally, they are due to the disturbance of vāta. The swellings in the muscle are large, deep-seated and pulsatile whereas those located in the fat are mobile, free from pain and contain oily pus. Patients with abscesses of a serious nature should be given evacuative treatment initially. This should be followed by fomentation when the abscess has not matured and come to a head. When ready, it should be opened and a sac, if present, should be removed and its bed cauterised. Thereafter the treatment should be identical to the treatment of an open wound. However, the removal should be complete keeping in view the regional parts lest the remnants of the sac grow and cause recurrence. A swelling of this type should be managed by an experienced surgeon. When a large abscess recurs in the abdomen, neck or other vital parts or occurs in children or senile and emaciated persons, the prognosis is poor enough for the physician to refrain from treatment. Localised swellings are similar in appearance, location, and perturbation of doṣas to solid swellings; their treatment is also similar.[7]

Boils and eruptions[8]

Alajī is a painful, copper-coloured and pointed boil.When it is at the junction of the skin and nail it is called aksata. It can affect muscle and blood as well. In the groin or axilla it appears as firm, diffuse and painless swellings with fever as a result of the disturbance of kapha and vāta. All these swellings require fomentation followed by drainage and open treatment of the resulting wound.

There are swellings which appear as eruptions of many varieties over the body. Visphoṭaka eruptions are red, generalised and associated with fever and thirst; kakṣyā has eruptions arranged like a sacred thread on the body due to the disturbance of pitta; other eruptions which may appear like boils of various sizes over the body could also be a manifestation of disturbed pitta. Tiny eruptions may occur all over the body with fever, thirst, itching and salivation and called romāntikā, which is again rooted

in pitta and kapha disorder. Masūrikā is recognised by lentil sized eruptions all over the body due to the perturbation of pitta and kapha. The management of these conditions should be on the lines of that prescribed for leprosy.

Swellings in the groin and scrotum[9]

Bradhna is a swelling in the groin caused by disturbed vāta which causes the loops of the intestine to enter the scrotum and return to the abdomen. The swelling of the scrotum may be soft due to the collection of urine or firm due to the accumulation of fat. The treatment of these conditions consists of purgation, massage, enema and the rubbing of pastes. If pus forms, drainage followed by open treatment of the wound would be in order. The scrotal swelling due to urine or fat should be managed by surgical removal and suturing. Suppuration, as before, should be drained and the resulting wound managed in the open mode.

Anorectal swellings[10]

The slow destruction of bones by small worms, excessive straining during bowel movement, prolonged squatting, horseriding and inordinate sexual activity may give rise to a painful boil on the side of the anus called bhagandara (anal fistula). The treatment consists of purgation, probing, incision, cauterisation with oil after clearing the passage, and the application of a properly prepared kṣārasūtra. After incision, it should be treated in the open mode like a wound.

Lower extremity [11]

Slīpada is a swelling which starts in the feet and extends over the calves due to the perturbation of muscles, kapha and blood. Its treatment should be based on the reduction of the engorgement of veins and the disturbance of kapha and the local application of mustard paste. In another type called jālakagardabha, the disturbance of pitta may cause acute swelling which spreads and also gives rise to fever. Here the treatment consists of fasting, reducing and evacuative measures, venesection and ingestion of the formulations of āmalakī. There may also be occasion to use cauterisation and surgical operations in these conditions.

TREATMENT[12]

The treatment should consist of measures directed against the cause, perturbation of doṣas and the season of the onset of the swelling. In general, swelling associated with the immature or gestational phase of an illness (āma) is best treated by reducing therapy, which enhances digestive power. A well-established swelling due to the perturbation of doṣas should be managed by evacuative therapy. Thus, swelling in the head region is treated by head evacuation, that in the lower part of the body with purgatives, and that of the middle part by emetics. Lubricant enema has a role in swelling due to vāta accompanied by constipation, and non-lubricant enema in treating pitta-induced swelling. Swelling due to kapha should be countered by wines mixed with hot, alkaline drugs, cow's urine and buttermilk.

DIET[13]

The following should be excluded from the patient's diet: the meat of weak and emaciated animals, dried vegetables, jaggery preparations of flour and sesamum, curd, wines, dried barley, dried meat, heavy items and a mix of unwholesome with wholesome food. Gruel cooked with herbs such as

jīvantī and further heated with ghee and oil is effective for the control of not only swelling but also piles, diarrhea and other ailments. Gruel prepared with herbs including pippalī, and the soup of the meat of wild birds in combination with the meat extract of tortoise, peacock, are aids to the resolution of swelling. Vegetarians should be given old barley and rice and herbs beginning with sauvarcalā.[14]

A regimen of camel's milk alone for a week or month while abstaining from food and water, or cow's urine with milk diet are also appropriate in certain cases. There are other special diets such as fresh ginger and jaggery in gradually increasing doses on a diet of milk, vegetable or meat soup and rice for an entire month. The physician should choose as to what is suitable for the individual patients depending on their digestive power.

Formulations for ingestion[15]

Formulations	Actions	Remarks
Trikaṭu, trivṛt, tiktakarohiṇī etc., ending in triphalā	Relieves kaphaja swelling	Processed with iron dust; harītakī with cow's urine has similar effect

Harītakī, śuṇṭhī, devadāru	Good for all types of swelling	Processed in warm water or extract of punarnavā. Consumed with cow's urine
Punarnavā, śuṇṭhī, mustā or apāmārga, pippalī, pippalīmūla,	Relieves vātaja swelling	Paste consumed with milk
Dantī, trivṛt, trikaṭu, citraka	Relieves swelling due to vāta and pitta	Boiled in milk
Śuṇṭhī, dāruharidrā; or syāmā, eraāḍa, marica; or tvak, devadāru, varṣābhū; or guḍuchi, śuāṭhī, dantī	Relieves swelling due to vāta and pitta	Decoction of any of the four groups with milk
Gaāḍīra, bhallātaka, citraka etc., ending in bṛhati (gaāḍīrādyariṣṭa)	Relieves swelling, fistula, worms, kuṣṭha, emaciation, prameha etc.	Processed in stages with additives as per protocol
Fruits of kāśmarya, āmalakī, marica etc., ending in pippalī (aṣṭaśatāriṣṭa)	Relieves swelling, kapha–vāta -induced disorders	Eight ingredients; powdered and preserved in a special jar for a week in summer and two weeks in winter
i. Two types of punarnavā and two of balā, two types of pāṭhā etc., ending in kaṇṭakārī ii. Powder of patra, tvak, elā etc., ending in (punarnavādyāriṣṭa)	Relieves severe swelling, splenic enlargement; prameha, fistula, asthma, kuṣṭha etc., improves lifespan	Group i. boiled and concentrated; old jaggery and honey added and preserved for a month, mixed with the powder of group aguru ii. and preserved again
Powder of triphalā, yavāni, citraka etc., ending in viḍaṅga	Relieves severe swelling, splenic enlargement; prameha, fistula, asthma, kuṣṭha etc., improves lifespan	Mixed with honey and jaggery; preserved as per directions

Pippalī, pāṭha, gajapippalī etc., ending in mustā	Relieves longstanding swelling and disturbed doṣas	Powdered and consumed in warm water
Yavakṣāra and sarjikṣāra (alkalis); saindhava, sauvarcalā, biḍa, audbhida (salts); iron dust; trikaṭu, triphalā etc., ending in ativiṣā (kṣāra guṭikā)	Relieves swelling, wasting, piles, splenic enlargement, shortness of breath leucoderma, urinary stones	Multi-stage processing as per directions and fabrication as pills
Śilājatu with triphalā decoction (śilājatu prayoga)	Reduces swelling caused by three doṣas	
Daśamūla extract, harītakī fruits, jaggery (kamsaharītakī)	Relieves excessive swelling, asthma, prameha, splenic enlargement, wasting, urinary disorders	Processed with other ingredients such as jaggery, trikaṭu, trisugandhi, honey and alkali as per directions
Paṭola, devadāru, dantī etc., ending in dāruharidrā	Relieves fever, poisoning, swelling	Boiled and concentrated: processed with ghee
Citraka, dhānyaka, yavāni etc., ending in cavya	Good for intractable swelling; piles	Made into a paste and cooked with ghee and water; improves digestion
Milk, citraka, ghee (citrakaghṛta)	Eliminates swelling, piles, diarrhea, gaseous lumps, prameha.	Milk kept in a jar smeared with citraka paste; the ghee extracted is cooked with buttermilk and citraka paste
Jīvantī, jīraka, śaṭī etc., ending in yavakṣāra	Good for reducing swelling, piles, diarrhea etc.	Added with vrkṣāmla and fried in ghee; cooked with gruel
Horsegram soup with pippalī, or greengram with trikaṭu and yavakṣāra	Good for reducing swelling, piles, diarrhea etc.	Mixed with wild meat soup or for vegetarians, vegetables such as sauvarcalā and grñjanaka

Formulations for external application[16]

Formulations	Actions	Remarks
Śaileya, kuṣṭha, aguru etc., ending in nakha	Beneficial for vāta-induced swelling	Processed with oil and used for massage
Vāsā leaves, aṛka, karañja etc., ending in arjaka	Beneficial for vāta-induced swelling	Water boiled with the herbs used for bath
Bark of vētasa, manjiṣṭā, durvā etc., ending in hṛbēra	Beneficial for vāta-induced swelling	As a paste, or processed with oil for massage, followed by bath in medicated water
Paste of pippalī, sand, oil cake, śigru bark, linseed	Relieves kapha-induced swelling	Used with a preparation of horsegram, ginger and cow's urine
Rāsnā, vacā, arka etc., ending in śuṇṭhī	Beneficial for all swellings	Powdered and mixed with cow's urine for rubbing over swelling

A physician should bear in mind that the classification of swellings on the basis of causation, location *etc.* cannot be exhaustive. Therefore, if a given swelling cannot be correctly classified he should not hesitate to treat the patient on the basis of general principles of therapeutics.

47 *Abdominal Disease with Distension (Udara)*

When an individual with poor digestive power eats improper or improperly cooked food the doṣas get perturbed. They then not only impair the digestive fire further but also disturb prā ṇa and apāna, which block the free movement of air in the gut. Added to this, the disturbed doṣas intrude into the space between the skin and muscle of the abdominal wall, block the channels carrying sweat and fluid and produce marked distension. This is the sequence of events in abdominal disease with distension (udara).[1]

However, it is not improper food alone that disturbs the doṣas and brings on udara. Piles, splenic enlargement with emaciation, wrong method of evacuation, suppression of natural urges, obstruction of the gut by fecal matter, hair etc., and perforation of the gut would also account for udara. The signs and symptoms of the disease are poor appetite, poor digestion of sweet or fatty articles, satiety on eating too little, inability to feel whether the previously eaten food is digested or not, mild swelling over the feet; decline in strength, shortness of breath on mild activity, distension of abdomen and pain in the lower part, disappearance of wrinkles on the abdominal wall and earache.

CLASSIFICATION

Udara has eight types as indicated below:[2]

1. Due to vāta (vātodara)
2. Due to pitta (pittodara)
3. Due to kapha (kaphodara)
4. Due to three doṣas (sannipātodara)
5. Splenic enlargement (plehodara)
6. Intestinal obstruction (baddhodara)
7. Intestinal perforation (chidrodara)
8. Fluid (udakodarā)

VĀTODARA

The sequence of events leading to vātodara was stated at the beginning. The key elements in the sequence are the digestive fire which is inactive, perturbation of kapha and the obstruction in the movement of vāta. As a result, several clinical features appear such as swelling on the abdomen, hands, feet and scrotum, explosive feeling and colicky pain in the abdomen, dry cough, loss of appetite, heaviness in the lower abdomen, obstruction to the passage of feces, flatus and urine,

blackish or reddish discolouration in the nails, face, stools and urine, prominent veins on the abdominal wall and noisy movement of wind in the abdomen.

PITTODARA

Sour, salty, very hot and pungent food, exposure to severe heat and sun are likely to perturb pitta which associates with kapha and vāta to block the digestive passage and put out the digestive fire. The pittodara which follows is characterised by fever, abdominal pain, thirst, fainting, diarrhea and greenish or yellowish discolouration of nail, eyes, face, urine and feces. Veins stand out on the abdominal wall with deep yellow, greenish or copper-coloured streaks and the belly appears inflamed but soft.

KAPHODARA

The perturbation of kapha and subsequently the blockage of the channels are related to diet and too much sweet, fatty and greasy food, milk, meat of aquatic and marshland animals, very little physical activity and sleeping during the day. Since the passages are blocked, vāta is obstructed and passes out of the gut, and produces abdominal distension. The patient complains of loss of appetite, heaviness in the belly, aches over the body, swelling of hands, feet, scrotum and thighs, shortness of breath and cough, sleep, pallor, prominent striae and veins over the abdomen, and a silent, immobile, tense and distended abdomen.

SANNIPĀTODARA

The three doṣas get perturbed when a person with poor digestion eats loathsome or toxic articles administered by a sorceress. The person develops the manifestations of all the three doṣas and severe distension of the abdomen.

PLEHODARA

Travel, physical activity, sexual intercourse, load bearing-all in extreme-as well as vomiting and emaciation may dislocate the spleen. From its normal position on the left side of the abdomen, it shifts to the right and accumulates blood and rasa with consequent enlargement. It becomes hard and feels like the shell of a tortoise. The patient loses appetite and develops cough, shortness of breath, mild fever, constipation, vomiting, pain and swelling of the abdomen. Blue, green or yellow lines appear on the abdomen and the patient becomes emaciated. The liver, which is situated on the right side, can also enlarge and produce similar symptoms.

BADDHODARA

Obstruction to the passage of wind occurs in the rectum when a person eats articles like hair with food. He develops piles, reverse movement of wind or telescoping of the gut. The digestive fire goes out as a consequence, and feces, pitta and kapha accumulate. The patient complains of pain around the navel and anal region, loss of appetite, obstruction to the passage of urine and feces, vomiting, earache, cough and sneezing, dry mouth, thirst and fever. The abdomen is distended and still with a rod-like profusion above the navel in some patients. The abdominal veins appear prominent and wrinkles are absent.

CHIDRODARA

The intestines may be perforated by thorns, gravel, grass and wooden or bony pieces which soil food. Yawning and overeating may also give rise to intestinal perforation. Chyle leaks out through the perforation to fill the gut and rectum and produce suppuration. The patient5s symptoms and signs are gradually increasing distension of abdomen (particularly below the navel), passage of blood and discoloured mucus with stools, hiccup, cough and shortness of breath, loss of appetite, weakness and polyuria.

UDAKODARA

When a wasted person who has taken lubricant substances and has poor digestion, drinks water in excess, the digestive fire is destroyed and the disturbed vāta gets lodged in the lungs. This perturbs kapha in turn and blocks channels, which leads to the collection of fluid in the abdomen. A patient with udakodara would complain of thirst, poor appetite, mucus discharge from rectum, pain, shortness of breath, cough, weakness and abdominal distension. The abdomen would feel like a bag filled with water. If not treated early, doṣas are dislodged from their normal locations and turn into liquids which accumulate: the blockage of sweat channels also causes sweat to be retained and added to the accumulating fluid. The abdomen becomes highly distended. The patients have numerous signs and symptoms including diarrhea and vomiting, thirst, shortness of breath and cough, pain on the sides, retention of urine, *etc.* Patients in this stage do not respond to treatment. Indeed, all types of udaras which develop fluid accumulation in the abdomen are as serious as the perforation of intestine which kills the patient in a fortnight.

TREATMENT[3]

A physician should know when to desist from treating patients with abdominal disease. The signs of incurability and signals to refrain from treatment include swelling in the eyes, deformation of genitals by swelling, emaciation, moist skin, shortness of breath, hiccup, vomiting and diarrhea and fainting. Abdominal diseases with distension are generally difficult to treat, but those of recent onset with no fluid in the abdomen in a strong patient are amenable to treatment. There are helpful signs to detect the absence of fluid such as the lack of distension and heaviness, resonance on tapping, gurgling sounds, umbilical protrusion which disappears after straining is over, pain in the heart region, navel, groin and anus, passage of flatus or hard stools, salivation and diminished urine output.

PROCEDURES

Vātodara[4]

The sequential steps in treatment are the administration of lubricant substances, lubricant and fomentation therapy and lubricant enema. Enemas are, in fact, the mainstay which may be needed daily in the treatment of vātodara. After evacuative therapy, the patient should be put on a milk diet which should be stopped only gradually. If he develops poor appetite at this stage vegetable or meat soup, agreeably sour and salty, should be given. A repeat course of lubricant and fomentation therapy and a non-lubricant enema may also be necessary. A lubricant enema should be given if the patient has convulsive movements, pain in bone and joints, retention of flatus and feces but good appetite. After the enema, the abdomen should be bandaged with cloth to prevent re-distension.

If the patient is too young, too old or too weak for purgation, a milder regimen consisting of a ghee-based diet, vegetable or meat soup, massage and finally, lubricant enema should be considered.

Pittodara[5]

A strong patient should be given purgatives straightaway but a weak one should be managed in stages through lubricant enema, milk enema and purgation with a herbal paste cooked in milk.

Kaphodara[~]

The principles of treatment are lubricant and fomentation therapy followed by evacuative measures. The patient should then be given a hot and alkaline diet which quells the disturbances of kapha. Cow's urine, ariṣṭa, metallic preparations and oil may also be beneficial.

Sannipātodara

This is a combination of the above-mentioned three disorders and calls for a mixed approach to treatment appropriate to the individual's condition.

Plehodara[7]

In plehodara, any of the three doṣas could be principally disturbed, which should be differentiated by their characteristic findings. Pain, hard stools and upward movement of air (eructation, vomiting etc.) would point to vāta; thirst, fever, confusion and burning sensation to pitta; and the loss of appetite, sense of heaviness and hard stools to kapha. The perturbation of blood would produce its own characteristic symptoms. Once the perturbed doṣa is identified, the treatment of plehodara should be designed to counter the perturbation and also adjusted to suit the strength of die patient. The principles of treatment are lubricant and fomentation therapy, and purgation and enemas which could be lubricant or non-lubricant. Lastly, bloodletting could also have a role in treatment. Medical formulations which are effective are listed ar the end of this section.

Baddhodara[8]

Fomentation followed by lubricant and non-lubricant enemas where the fluid consists of cow's urine, irritant herbal extracts, oil and salt, are the main steps in treatment. Food which has a laxative effect, strong purgatives and vāta-alleviating measures are also appropriate for treatment.

Chidrodara[9]

Management is similar to that of kaphodara except that fluid, as it appears, should be tapped and removed. If the patient is very ill with shortness of breath, weakened senses or fever, treatment should be withheld in view of the fatal outcome.

Udakodara (ascites)[10]

Restriction of fluid intake including water, a kapha-relieving diet and appropriate formulations mentioned later should be the main elements of therapy.

DIET[11]

As the patients have poor appetite they should be given appetising and easily digested articles such as śāli rice, barley, greengram, milk, urine, āsavas and bird meat. Rice gruel with vegetables or meat soup cooked with five roots are also appropriate. A highly recommended item is buttermilk with or without additions such as trikaṭu, pippalī, saindhava, hapuṣā, yavāni, jīraka, yavakṣāra, salt and

sugar. Buttermilk is like nectar for patients with abdominal disease and the additions should be tailored to the disturbed doṣa in a given patient. Hot, salted and heavy food, meat of aquatic or marshy animals, flour, sesamum, physical activity and sleep during the day should be avoided.

If the patient has generalised swelling, constipated stools, colic and fainting spells, camel's milk would be advisable. The milk of cow, goat and buffalo is appropriate for a weak patient following evacuative therapy. Water boiled with prescribed herbs and cooled, as well as eight types of urine should be used for local application on the distended abdomen.

Formulations[12]

An indicative list is as follows:

Formulations	Actions	Remarks
Pippalī, śuṇṭhī, dantī etc., ending in harītakī	Beneficial in plehodara	Consumed as powder with hot water
Viḍaṅga, citraka, śuṇṭhī etc., ending in vaca	Beneficial in plehodara	Incinerated together in an earthen pot and consumed with milk
i. Decoction of rohitakaḥ bark ii. Paste of pancakōla	Beneficial in plehodara; also relieves worms, jaundice and pallor	Group i. mixed with ii. and rohitakaḥ bark treated ghee; cooked
Pippalī, pippalīmūla, cavya etc., ending in yavakṣāra (ghṛta)[13]	Effective against abdominal disease, swelling, piles etc.	Cooked in ghee, decoction of ten roots and the top layer of curd
Śuṇṭhī, triphalā	Beneficial for abdominal disease in general	Śuṇṭhī and triphalā cooked as paste with ghee and oil, dilute curd
Citraka, yavakṣāra	Beneficial for abdominal disease in general	Paste of herbs and ghee cooked in water and cow's urine
Yava, kola, kulattha; decoction of pañcamūla, urine and vinegar	Beneficial for abdominal disease in general	Processed as per directions
Paṭola roots, haridrā, viḍaṅga etc., ending in trivṛt (paṭolādya cūrṇa)	Overcomes abdominal disease including udakodara, jaundice and swelling	Powdered together as per directions and taken with cow's urine
Hapuṣā, svarnakṣīri, triphala etc., ending in pippalī (hapuṣādya curṇa)	Relieves all types of abdominal disease including of plehodara swelling, jaundice, piles	Powdered together and taken with a mixture several liquids as per directions

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Nīlinī, nicula, trikaṭu etc., ending in sarjiik sāra (nīlinyādi curṇa)	Relieves abdominal disease including gaseous lumps	Mixed and powdered: consumed with ghee
Ghee, milk, paste of snuhi latex (snuhikṣīra ghṛta)	Relieves abdominal disease including gaseous lumps	Ghee boiled with milk, paste of snuhi latex, trivṛt and concentrated

A few formulations to follow a course of ghṛta treatment[14]]

Citraka, devadāru	Beneficial in all abdominal diseases	Paste consumed with milk
Gajapippalī, śuṇṭhī, vidaṅga etc., ending in trikaṭu	Beneficial in all abdominal diseases	Paste of any of the herbs with milk
Triphala, dantī, rohitaka etc., ending in yavakṣara	Beneficial in all abdominal diseases	Processed as per directions; after the formulation is digested, wild meat soup to follow
Fruits of harītakī, śilājatu or guggulu	Beneficial in all of abdominal diseases	One thousand fruits of harītakī: patient on milk diet
Pippalī, tilvaka, hiṅgu etc., ending in mustā	Effective for abdominal disease, swelling, heart disease, upward movement of vāta	Mixed with five salts, curd, ghee, muscle fat etc., and incinerated. The ash is taken with urine, hot water etc., as per directions
Young leaves of śankhinī, snuhi, trivṛt etc., ending in cirabilva	Softens stools in constipated persons	Taken before meals
Agnimanthā, śyonāka, palāśa etc., ending in apāmārga	Relieves abdominal disease and compression in the chest	Alkali prepared by incinerating and then cooking in oil

TREATMENT FOR INTRACTABLE CASES (INCLUDING SURGICAL INTERVENTION)[15]

If all medical measures fail, a physician should not shrink from the difficult option of surgery. He should discuss the situation with the patient's family, friends, brāhmaṇas, elders and the king and sum up the choice as follows 'If nothing is done, the patient will certainly die; but the course of drastic action carries risk'. In pursuing the risky option including surgery the physician must take prior permission of the patient's friends.

POISON FOR THERAPY

The patient should be given a chosen poison mixed with food or drink, or a fruit bitten by a snake in anger. The violent action of the poison would break up the accumulated and immobile doṣas from their misplaced location and facilitate elimination. The patient should then be bathed in cold water

and given a liquid diet of milk or gruel. This phase is followed by a soft diet of boiled herbs such as trivṛt, maṇḍūkaparṇī etc., without adding fat or salt or cereals for an entire month. Vegetable juice should be given as a drink. After a month, camel's milk is ideal as a restorative.

SURGERY

This procedure should be carried out by skilled surgeons. Four finger-breadths below the level of the navel on the left side, an incision is made by an instrument according to measurements. After opening the abdomen, the intestines should be examined for blocks or perforations. By lubricated massage the occluding mass (such as hairballs) should be mobilised and removed and loops that were stuck together released. If perforations are present, large ants are made to bite the edges and close the defect. As soon as the closure is complete the bodies of the ants are cut away and the loops replaced. The incision is sewn with needle and thread.

When fluid has accumulated in the abdomen, it should be drained with a cannula made for the purpose through a puncture on the left side below the navel. Gentle pressure should be applied on the abdomen after the drainage and a circular bandage applied. Bandaging is desirable even after successful purgation or the return of enema. Subsequently the patient should be given a liquid diet without salt or fat and kept on a milk diet for six months. A further three months of salt-free, light diet of cereals with milk should enable the patient to recover fully. Milk is the ideal food for patients with abdominal disease and wasting.

48 *Piles (Arśa)*

Piles are fleshy outgrowths. In terms of causation, they may be congenital or acquired later in life. The congenital variety is caused by a defect in the fertilised ovum leading to a faulty development of the anorectal folds. The defect in the fertilised ovum could result from the wrongful conduct of parents, which could indeed account for other disorders as well. Congenital diseases appear contemporaneously with the body.[1]

CONGENITAL PILES

Piles are located in a space five-and-one-half finger-breadths from the anal orifice and one-third distance from each other in the anorectal ring. Some have claimed that piles occur in such sites as penis, female genital tract, throat, palate, mouth, nose, ear, eyelids and skin. They are also fleshy outgrowths but only what is seen in the anorectal location qualifies as piles. Piles are made of fat, flesh and skin, and may be big or small. They may have varied shapes and colours and may protrude inwards or outwards.

The person with congenital piles may have a characteristic personality and may suffer from several other disorders. He may be contemplative, anxious and averse to physical activity. Lean, easily tired, prone to passing plentiful or hard stools and gravel or stone in urine, the patient may also pass mature or immature stools which may be coloured pale,green, yellow or red and mixed with mucus. He may have severe pain around the navel, lower abdomen and groin. Polyuria, retention of urine and feces, upward movement of vāta as shown by retching and eructation, weak digestion, nausea and vomiting, cough and shortness of breath are other symptoms which may be observed. The patient may complain of voice change, blurring of vision, swelling of hands, feet and face, pain in bone and joints, headache, feeling of compression in the sides, lower abdomen and lower back. As apāna vāta which normally courses downwards is obstructed in these patients, it tends to move upwards and disturb die other components of vāta (samāna, vyāna, prā ṇa and udāna) no less than pitta and kapha.

ACQUIRED PILES[2]

Acquired causes include unwholesome food consisting of articles which are heavy, sweet and cold, poorly cooked, incompatible and rotten meats or meat of cow, fish, buffalo, goat and sheep, and a

range of other foods (vegetarian and non-vegetarian) and various drinks. Defective use of enema, too much or too little physical activity including sexual activity, sleeping during daytime, addiction to comfortable beds and chairs and prolonged travel in vehicles on uneven roads may also contribute to the genesis of acquired piles. Other causes include injury by enema nozzle, excessive straining, difficult labour, vigorous use of sand or grass in cleansing after bowel movement, and suppression of natural urge to evacuate.

PILES ACCORDING TO THE DISTURBANCE OF DOṢAS[3]

In general, the shape of piles is characteristic for each doṣa. For example vātaja may resemble sarṣapa or masūra, pittaja may resemble tiṇḍikera or kebuka, and kaphaja may be analogous to cow's udder or anguṣṭa.

Vātaja

The pile masses are dry, firm and rough with blackish discolouration and may be pointed. They may also be diffuse and open with severe pain, convulsions, blood and mucus in stools, earache, sensation of tightness in the penis, scrotum, groin, bladder and heart region, constipation, upward movement of vāta and several other clinical features. The vātaja piles tend to occur in individuals who habitually take pungent, bitter, rough and cold articles in food, or eat too little, indulge in too much sexual activity or remain over anxious or overactive physically.

Pittaja

The protrusions are soft, thin and tender, red, blue, black or yellow in colour and accompanied by burning pain, inflammation, itching and discomfort. There is copious discharge of foul-smelling mucus and blood, plentiful stools of yellow or green colour, fever, loss of appetite, yellowish colour of nails, eyes, face, skin and urine and a tendency to faint. The precipitating factors are the consumption of pungent, salty, sour or alkaline substances, physical activity, exposure to fire and sun, drinking wine, and emotions such as anger and envy.

Kaphaja

Kaphaja piles are large in size, well-defined, non-tender, white, slimy, heavy, moist and insensitive to touch. They may be associated with itching, profuse mucus discharge of various colours, dense, white urine and stools, swelling in the groin, tenesmus, pain in the anal region, pain during urination and passage of gravel in urine, fever, sweet taste in the mouth suggestive of diabetes, and whitish discolouration of nails, eyes, face, skin, urine and stool. These patients are likely to be accustomed to a diet of fatty, cold, salty, sour and heavy items, less physical and mental inactivity, daytime sleep, and sedentary habits.

Piles may also result from the disturbance of two or three doṣas; the clinical features would then be mixed.

CLINICAL COURSE[4]

Piles of recent onset, appearing externally and involving only one fold results from the disturbance of one doṣa and is easily cured. When two doṣas are disturbed to produce pile masses involving two folds and the patient has had symptoms for a year, the treatment is more difficult. When the piles are hereditary, involves all three doṣas and the internal folds, the condition is hardly curable.

Nonetheless, if the medical quartet fulfils the optimum criteria and the patient's digestive fire can be restored, there is a chance of cure which should be worked for. When the patient has developed swelling of the hands, feet, navel, perineum and scrotum and has pain in the chest and fainting spells, he is beyond the scope of treatment.

TREATMENT[5]

Some authorities advocate surgery for treating piles while others urge the use of alkali or cauterisation. These methods work in the hands of experts but even then carry serious risks, such as impotence, bleeding, non-healing of wounds, severe pain, incontinence and anorectal prolapse.

A medical approach is therefore to be preferred in the treatment of piles which are grouped under dry and wet categories for this purpose.

DRY PILES

This type results from the disturbance of vāta and kapha. The pile masses are firm, painful and tense with no bleeding. The treatment for this condition is local and general.

Local measures[6]

Gentle massage of the piles with oil prepared with citraka, alkali and bilva should be followed by fomentation. The fomentation could be carried out with bolus of blackgram, barley or horsegram, dried boluses of cow or horse dung, paste of sesamum or rice husk, or balls made with vegetables such as gṛñjanaka. Following fomentation, an extract of vāsā, arka, eraṇḍa and bilva is smeared on the pile masses and the patient is made to sit in a tub filled with a decoction of mūlaka, triphalā, arka *etc*. Other formulations are also available for the patient's tub bath.

Fumigation is also an effective local technique. The agents used for fumigation include the fat of black snake, boar, camel *etc*. human hair, shed snake skin, hide of cat, and several herbal combinations such as tumburu, viḍaṅga, devadāru, barley and ghee. Yet another local method is the application of a variety of pastes which include snuhi mixed with haridrā powder, pippalī ground with cow's bile and haridrā and many others.

The local approaches to treatment reduce the swelling, pain, and tension and promote the expulsion of the collected blood. If these measures fail and blood is retained, leeches, needles or instruments should be used to decompress the masses.

Diet and formulations[7]

Buttermilk made in a jar lined with a paste of citraka root bark should be taken by the patient regularly as no remedy for vātaja and kaphaja piles is superior to buttermilk. If digestion is poor, the patient should take only buttermilk with fried rice powder soaked in buttermilk in the evening. As digestion improves, rice and buttermilk, rock salt, vegetable and meat soup etc., could be added to the diet. The buttermilk regimen should be continued for at least a month and then terminated gradually in the same sequence as it was built up. The fat content of the buttermilk could be low, medium or high and the type chosen should be appropriate to the doṣa that is perturbed (lubricant for vātaja and non-lubricant for kaphaja). Buttermilk poured on the ground dries out grass with deep roots how much more readily would it relieve piles by stimulating the digestive fire?

When dry piles are associated with liquid stools, medicated gruels are effective. Some are given

below:[8]

Formulations	Actions	Remarks
Pippalī, pippalīmūla, citraka etc., ending in pāṭhā	Relieves piles	Ground and cooked in gruel; fried with ghee and oil; taken with sour fruits
Śaṭī, karcūra or pippalī	Relieves piles	Prepared as gruel with buttermilk; pepper added
Dried radish, horsegram or kapittha or bilva	Relieves piles	Soup of the herbs alone or mixed with the soup of meat of goat, quail etc.
Red śāli, mahāśāli, kālamā etc., ending in ṣāṣṭika	Relieves piles	As cereals in diet

Some patients with piles are troubled by constipation; this calls for a different regimen of diet and medical formulations as shown below:[9]

Formulations	Actions	Remarks
Yavāni, śuṇṭhī, pāṭha etc., ending in pomegranate	Smoothens passage of flatus and stools	Juice mixed with salted buttermilk
Pāṭha combined with duralabha, bilva etc., ending in śuṇṭhī	Relieves painful piles	Juice mixed with salted buttermilk
Pippalī, śuṇṭhī, yavakṣāra etc., ending in jiraka	Smoothens passage of flatus and stools	Soured with fruits and sweetened with sugar syrup
Pippalī, pippalīmūla, citraka etc., ending in yavakṣāra	Smoothens passage of flatus and stools	Processed with ghee
Pippalī, pippalīmūla, curd etc., ending in dhānyaka	Smoothens passage of flatus and stools	Cooked in ghee

Cavya, trikaṭu, pāṭha etc., ending in harītakī	Relieves blood and mucus in stools, painful urination, anal prolapse and discharge, pain in perineum	Powdered and mixed with curd
Śuṇṭhī, pippalīmūla etc., ending in yavānika	Relieves kaphaja, vātaja piles, anal prolapse and discharge, blood and mucus in stools, painful urination	Paste cooked with ghee and cāṅgēri juice
i. Pippalī, śuṇṭhī, pāṭhā etc., ending in gokṣurā ii. Gaṇḍīra, pippalīmūla, trikaṭu etc., ending in citraka	Relieves piles, abdominal lumps, constipation, swelling, splenic enlargement, fever; promotes strength, digestion	Decoction of i. processed with the paste of ii. Cooked as per directions with ghee, cangeri juice and curd
Sour meat soup of peacock, partridge, cock etc	Relieves constipation	To be cooked well
Leaves of trivṛt, dantī, karcūra etc., ending in citraka	Relieves constipation	Fried in ghee and oil; mixed with curd
Upodika, taṇḍulīya, vīra etc., ending in gṛñjanaka	Relieves constipation	Cooked with curd and pomegranate, fried in oil and ghee

If the patient with piles suffers from perturbed vāta, his digestion will be poor and he should be given wine, buttermilk, ariṣṭas, the top layer of curd or water boiled with kaṇṭakārī or dhānyaka and śuṇṭhī. These drinks facilitate the passage of flatus and stools. When vātaja piles produce more severe symptoms, the administration of enemas and formulations would be necessary as indicated below:[10]

Formulations	Actions	Remarks
Pippalī, madana, bilva etc., ending in devadāru	Relieves pain in groin, anal discharge,urge for evacuation with inability to pass stools	Paste cooked in oil and milk. For lubricant enema. Warm paste can be applied locally

Daśamūla	Relieves pain in groin, anal discharge, urge for evacuation with inability to pass stools	Processed with milk, salt; cow's urine, fat and paste of madanaphala used for enema
Harītakī, āmalaka, kapittha etc., ending in elavāluka (abhayāriṣṭa)	Relieves abdominal disorders, splenic enlargement, jaundice, worms, phthisis, skin disorders	Boiled in water and concentrated; jaggery added and preserved in a ghee lined vessel: to be used regularly
i. Roots of danti, citraka, daśamūlā. ii. Triphalā pulp (dantyāriṣṭa)	Relieves piles; improves appetite; eases passage of flatus and stools, reduces pallor	Group i. crushed and boiled in water; pulp of ii. added and concentrated. Jaggery added and kept in a ghee-lined vessel
Fruits of harītakī, āmalakī, viśāla etc., ending in citraka roots (phalāriṣṭa of Kṛṣṇātreya)	Improves digestion; Relieves splenic enlargement, heart disease, pallor, jaundice, intermittent fever, cough etc.	Crushed, boiled in water and concentrated; jaggery added and preserved
Durālabha, citraka, vāsā etc., ending in dantī (śarkarāriṣṭa)	Relieves piles, loss of appetite, upward movement of vāyu, retention of urine and feces, poor digestion	Boiled in water and concentrated: sugar added and preserved in jar smeared with drugs as directed
i. Āmalakī fruits, pippalī, viḍaṅga etc., ending in nāgakesara. (kanakāriṣṭa) ii. Tvak, elā, plava etc., ending in nāgakesara	Enhances appetite; relieves piles, pallor, constipation, swelling, heart disease, abdominal lumps, cough etc.	Group i. crushed, boiled in water and concentrated; cooled and mixed with dried grape decoction. Mixed with sugar, honey and powder of ii. Preserved in a special container

It is important to wash the anal orifice and perineum after defecation with warm water or warm water which has been boiled with medicinal plant leaves.

BLEEDING PILES (WET PILES) [11]

Bleeding piles are caused by the disturbance of kapha or vāta. The kaphaja type is indicated by loose, cold, white-yellow and mucoid stools; the pile mass is thick, pale, wet and slippery with bleeding. In vātaja piles, the stools are black and hard and blood emerges from piles in thin, frothy streams. The patient also complains of pain in the thighs and perineum and weakness. In general, the treatment of kaphaja and vātaja piles should employ measures which are rough and cold, and lubricant and cold, respectively. When pitta is dominant, evacuative measures are called for and the bleeding should not be immediately arrested lest the impure blood should give rise to numerous complications including fever, poor digestion, eruptions, skin diseases, and obstruction to the passage of flatus and feces. However, bleeding from purely pittaja piles during summer should be promptly controlled.

Local measures[12]

When the bleeding is severe, the patient should seat himself in a tub filled with the decoction of madhuka, lotus stalk, padmaka, candana, kuśa and kāśa. Sugarcane juice mixed with the extract of madhuka and vetasa could also be used to fill the tub. Cold oil massage followed by exposure to cold water, application of ghee and sugar to the perineum, anal orifice and sacral region, covering these parts with tender leaves of banana or lotus and sprinkling cold water, applying durvā preparation of ghee and washing the mass a hundred or thousand times with ghee are other local measures which should be employed for the control of bleeding. In a wet anorectal prolapse, the mass should be smeared with drug combinations such as lajjālu and madhuka or tila and madhuka. If the topical applications fail to control bleeding, the patient should be given plenty of hot meat soups with lubricant substances. Intake of ghee after meals, massage with ghee and shower of ghee or oil are to be tried in such situations.

Diet and formulations[13]

The patient with bleeding piles should take a diet of śāli or śyāmaka rice, boiled milk, soup of masura, mudga, adhaki etc., with souring agents. Well-cooked meat of rabbit, deer, quail *etc.* is also agreeable. When bleeding is severe and vāta is disturbed, sweetened sour soup of the meat of cock, peacock, camel, fox and partridge is effective in controlling symptoms. Other desirable items on the patient's menu include soup of young goat's body meat and blood cooked with a large quantity of onions. The regular use of tila with butter, nāgakesara with butter and sugar and the processed top layer of curd is effective in controlling bleeding piles. A few specific items in the diet are listed below:

Formulations	Actions	Remarks
Parched rice gruel, cukrikā, nāgakesara and utpala	Instantly controls bleeding	Cooked as gruel
Parched rice gruel, balā, pṛṣniparṇī etc., ending in kola	Instantly controls bleeding	Gruel with balā and pṛṣniparṇi cooked in the decoction of hṛbera etc., supplemented with butter and soured with vṛkṣāmḷa etc.
Parched rice gruel, gṛñjanaka, wine	Controls bloody diarrhea, pain, swelling	Cooked together and fried with ghee and oil
Top layer of curd, fruits of kāśmarya, āmalakī, kaṛbūdara etc., ending in flowers of kovidāra	Controls severe bleeding	Processed as directed
Onion cooked with butter milk or upodika with badara; or masūra with buttermilk	Controls severe bleeding	All items are sour

Formulations on their own or as part of a diet regimen are very important in the treatment of wet piles.[14]

Formulations	Actions	Remarks
Candana, kirātatikta, dhānvāyāsa, etc., ending in śuṇṭhī	Relieves bleeding piles	Decoction
Dāruharidrā bark, uśīra, nimba	Relieves bleeding piles	Decoction
Kuṭaja bark, mocarasa, lajjālu, priyaṅgū (kuṭajādi rasakriya)	Promptly relieves bleeding piles, bloody diarrhea	Kuṭaja bark boiled in rainwater and the decoction mixed

		with the other drugs and cooked again. Given with goat milk
Nīlotpala, lajjālu, mocarasa milk etc., ending in lodhra	Controls building	Taken with goat's and śāli rice
Goat's milk with juice of vastuka or meat of wild animals	Controls bleeding	Given with souring agents
Pāṭhā, indrayava, śuṇṭhī etc., ending in bilva	Relieves severe pain in piles	Consumed as powder
Dāruharidrā, kirātatikta, mustā etc., ending in dhanvāyāsa	Effective in controlling profuse bleeding	Prepared in ghee
Seeds and bark of kuṭaja, nāgakesara, nīlotpala etc., ending in dhātaki	Effective in relieving pain and bleeding in piles	Prepared in ghee
Pomegranate juice, yavakṣāra or kaṇṭakārī, dugdhika	Effective in relieving pain and bleeding in piles	Prepared in ghee
i. Roots of yavāsa, kuśa, kāśa etc., ending in leaf buds of aśvattha ii. Mocarasa, lājjalu candana etc., ending in lotus stamens. (pichhābasti)	Relieves bloody diarrhea, fever, anorectal prolapse	Group i. boiled in milk and water and concentrated; mixed with the paste of ii. Honey, sugar and ghee added for use as enema
Hrībera, utpala, lodhra etc., ending in citraka (hrīberādi ghṛta)	Effectively relieves piles, diarrhea, fever, pallor, rectal prolapse, distension of urinary bladder, mucus discharge	Paste cooked in ghee and cāṅgēri juice
i. Ādhaḥpuṣpī, balā, dāruharidrā etc., ending in aśvathha. ii. Jīvantī, kaṭurohiṇi, pippalī etc., ending in pāṭhā (sunisaṇṇaka cāṅgēri ghṛta)	Effective in controlling bleeding piles, rectal prolapse, mucus discharge, tenesmus, urinary retention; promotes strength and digestion	Decoction of i. mixed with the paste of ii and processed as per directions

CONCLUSION

Piles, diarrhea and grahaṇī have a shared causation. Their intensity is in inverse proportion to the patient's digestive power. Hence the importance of boosting the digestive fire of patients in

countering the three conditions.

49 *Digestion and Digestive Disorders (Grahaṇi)*

DIGESTION[1]

Every attribute of the living body - strength, lifespan, health, energy, growth, resistance to illness and life breath - is ultimately sustained by the body fire. While the fire burns brightly a person lives long in good health, when it is weakened, he falls ill, and when it goes out, he dies. Body fire, however, is a composite; its constituents include the five fires which specifically process each primordial element and bring about its conversion to the constituents derived from each. Body fire also includes the fires which are associated with each of the seven dhātus. The fires of the constituents burn constantly and account for the neverending transformation of dhātus into essence and impurities. Among all these constituent fires, what digests food is supreme, its rise and fall determining the level of all other agnis or fires.

Food which supplies nutrient replacement to the constituents is cooked or digested by the digestive fire. In the absence of this process, food cannot be transformed into constituents and their attributes such as strength. In the first phase, food with desired smell and other qualities appeal to the respective senses which are gratified.The life breath then transports the ingested food to the stomach, where it is broken down by digestive liquids and rendered soft by lubricants. It is this material which forms the substrate of the digestive fire which is fanned by the samāna wind. The initial stage of the cooking of food by the digestive fire from below and its conversion into chyle and impurities is reminiscent of rice grains in a pot being cooked by fire and being turned into soft boiled rice.

Food articles possess six tastes. In the first stage of the digestive process or (prapāka), a mucoid, frothy product arises which is sweet. Further digestion takes place as the matter moves down the stomach, when the product turns acidic due to the plentiful addition of bile. Finally, the digested matter enters the large bowel where it is dried and solidified by the apāna wind. At this stage the pungent quality is dominant.

The final products of the digestive process are essence and excrement. Essence contributes to the building of constituents in a particular sequence which is rasa, blood, muscle, fat, bone, marrow and semen. Constituents in turn account for the formation of subsidiary constituents (upadhātus). Examples of subsidiary constituents are breast milk and menstrual blood from chyle, tendons and blood vessels from blood, fat and six layers of skin from muscle, and ligaments and joints from fat. The digestive process of food as well as constituents give rise to distinctive excrements: those of food are feces and urine; of rasa, phlegm; of blood, bile; of muscle, the dirt at the body orifices; of fat, sweat; of bone, hairs of head and body; of marrow, deposits in the eyes, feces and skin. Essence which turns into constituents and the excrements that are eliminated result from the same digestive process. Their

balanced proportion is a condition of good health. The transformatory process in constituents takes place in gradual and neverending cycles. Therefore, the quick effect of, say aphrodisiacs, in six days, must be due to their specific effective action (prabhāva).

The evolution of constituents as stated here raises many questions.[2] How does red blood evolve from rasa which is devoid of red colour? If blood too was colourless initially how did it acquire the red colour? How does blood, which is liquid, give rise to muscle that is solid? How can fat, so unlike blood and muscle, have its origin in blood and muscle? What about the origin of hard bone from soft tissues like fat and muscle? How does a soft and lubricant substance like marrow arise from the hard bone? Lastly, how does semen which runs through the whole body take origin from marrow which is encased in the non-porous bone? To answer these questions, one must note that rasa - the essence of food -imbibes the red colour of blood from pitta which has fire-like properties. When blood is worked upon by air, water, and fire, the fluid-to-solid transformation occurs and muscle is formed. Processed by its own fire, water and inherent lubricant properties, muscle turns into fat. The internal fire of fat in conjunction with earth, fire and air convert what is soft fat into hard bone. Inside the bone, vāta creates a hollow which is filled with marrow derived from fat. Vāta and ether make the bone porous through which semen seeps out like water oozing out through an earthen jar. Semen moves all over the body through its channels and emerges through the urinary passage during sexual activity.

Vyāna is constantly keeping chyle and blood in motion everywhere in the body. If the movement is stopped or localised anywhere, a disorder follows even as the localisation of doṣas gives rise to illness. The effect of obstruction reminds one of a downpour which follows the interruption of the course of rain clouds.

DIGESTIVE DISORDERS[3]

Many kinds of digestive disorders occur when the digestive fire is disturbed. The disturbance could result from a variety of actions such as fasting or overeating, eating irregularly or before the previous meal is digested, eating heavy, cold, rough, incompatible or contaminated food, wrong applications of evacuative measures, suppression of natural urges and poor adaptation to place and seasons. When the digestive fire is unsettled, even simple food remains undigested and becomes a source of toxins. The symptoms of indigestion include retention of food in the stomach, headache, giddiness and fainting, yawning, backache, fever, nausea and vomiting and griping pain in the abdomen. When the toxic part of retained food joins pitta, the patient would complain of burning sensation, thirst, oral ailments, 'stomach acidity' and other pittaja disorders. Combined with kapha, the food toxin would give rise to phthisis, polyuria and other kaphaja diseases, and in association with vāta, it would cause urinary disorders and difficulties in relation to bowel movement. As the digestive fire fails to process food, body constituents become deprived of nutrients, shrivelled and unbalanced.

The food that is poorly cooked by a weak digestive fire may move up or down. The downward course of undigested food forms the basis of grahaṇi, the clinical features of which include the frequent or infrequent passage of immature stools in solid or liquid form. Thirst, loss of appetite and vomiting, foul taste in the mouth, salivation and darkness before the eyes, swelling of hands and feet, joint pains, fever and eructation of material with fleshy or metallic taste are other attendant symptoms. When the food is undigested (āma), the stool is heavy and sinks in water; in the absence of āma, the stool floats as it does also in the presence of liquidity, solidity, coldness and involvement of kapha.

The appearance of these symptoms may be preceded by lassitude, debility, delayed digestion and a feeling of heaviness. Grahaṇi derives its name from the retention of food in the seat of digestive fire, which sits above the navel. In the normal course, food is released sideways from its seat in the stomach after full digestion but in grahaṇi, the feeble digestive fire lets the food escape in the undigested state.

DIGESTIVE DISORDERS ACCORDING TO DISTURBED DOṢAS

Like other ailments, digestive disorders owe their genesis to the perturbation of the doṣas. Vāta is perturbed by the ingestion of too little or too much food, pungent, bitter, rough and cold foods, excessive travel or sexual intercourse, and suppression of natural urges. The disturbed vāta upsets and weakens the digestive fire and gives rise to numerous symptoms including dry throat and mouth, hunger, abdominal distension, pain over body parts including the heart, weakness and loss of weight keen desire for all food articles and a feeling of distension during and after digestion, which settles after eating. The symptoms may indeed resemble those of vātaja lump of the abdomen, splenic enlargement or heart disease. The patient may pass thin, liquid, undigested food in stools frequently with much noisy flatus. He may also complain of shortness of breath and cough. The pittaja type of digestive disorder is caused by the ingestion of pungent, sour, uncooked or alkaline food which puts out the digestive fire. The patient's skin appears yellowish and he passes undigested yellowish or bluish liquid stool at frequent intervals. He would also have symptoms of heart burn, acid or foul eructations, loss of appetite and thirst. The kaphaja variety differs in so far as it is triggered by heavy, greasy or cold articles of food, overeating and going to sleep upon eating a full meal, which blow out the digestive fire. The patient suffers from nausea, vomiting, sweetness and stickiness in the mouth, cough, sensation of pulling apart in the heart and heaviness of the abdomen. He would have no libido, and his stool would be heavy, mixed with mucus and undigested food. Suffering no weight loss he would still complain of weakness and lack of energy.

TREATMENT[4]

General measures

When a digestive disorder appears in an acute form with symptoms such as salivation, abdominal distension and loss of appetite, the patient should be given warm water to drink or a decoction of madanaphala or pippalī or sarṣapa to induce vomiting. If the digestive disturbance is believed to have moved to the large intestine, purgation should be tried side by side with appetising agents. If the digestive disorder has advanced and has involved the whole body, lightening measures to stimulate the digestive fire should be instituted. When the symptoms of indigestion are controlled in the vātaja disorder, ghee should be administered with appetising additives. If indigestion is associated with obstruction to the passage of feces, urine and flatus, the patient should be given lubricant substances for two or three days and then subjected to fomentation, massage and a non-lubricant enema; if he is constipated, a lubricant enema with appetisers and vāta-relieving drugs would be advisable. Following the evacuative measures, he should adhere to a light diet with the regular intake of ghee.

Formulations[5]

Formulations	Actions	Remarks
Daśamūlas, saralā, devadāru etc., ending in rāsna (daśamūlādya ghṛta)	Relieves vāta disturbance; stimulates agni: improves strength; complexion etc.	Drugs boiled with sour gruel, curd etc.; the decoction cooked further with ghee and other substances as per directions
Trikaṭu, triphalā (tryūṣaṇādya ghṛta)	Stimulates digestion	Cooked with ghee and jaggery
i. Pancamūla, harītakī, trikaṭu etc., ending in śaṭī ii. Juices of mātuluṅga, fresh ginger, dried radish ending in sour pomegranate (pancamūlādya ghṛta or cūrṇa)	Stimulates digestive agni, relieves colic, gaseous abdominal lumps, asthma etc.	Group i. herbal drugs cooked in ghee, vinegar and juices of ii. and other substances as directed. The same ingredients can be processed as oil or powder
Citraka, pippalīmūla, yavakṣāra etc., ending in cavya (citrakādya guṭika) agni	Consumes āma and stimulates digestive	Powdered and made pills with the juice of mātulunga or pomegranate

Śuṇṭhī, ativiṣā, mustā	Relieves indigestion	Made into paste and consumed with hot water
Devadāru, vacā, mustā etc., ending in harītakī	Relieves indigestion	Fermented in urine
Bilva, citraka, śuṇṭhī	For undigested stool and painful defecation	Made into paste and mixed with biḍa salt
Indrayava, hiṅgu, ativiṣā etc., ending in harītakī	Effective in vātaja ama and kaphaja type with pain	Taken as powder
Harītakī, jīraka	Effective in painful defecation, hard stools, piles	Powdered with sauvarcala and consumed with hot water
Harītakī, pippalīmūla, vacā etc., ending in śuṇṭhī		Made into powder or decoction and consumed with warm water
Ativiṣā, trikaṭu, hiṅgu	Overcomes āma	Made into decoction or powder and consumed with warm water
Pippalī, śuṇṭhī, pāṭhā etc., ending in indrayava	Stimulates digestive agni and relieves flatulence	Drugs powdered, five salts added and mixed with curd, hot water, yavakṣāra etc.
Marica, kuncika, ambaṣṭhā etc., ending in hiṅguśivāṭikā (marīcādya cūrṇa)	Effective in vātaja type of digestive disorder	Powdered with five salts
Vṛkṣamla, amlavetasa, dāḍima ending in badara	Effective against indigestion, cough, pallor, colic, heart diseases	Powdered with five salts and sugar: used with vegetables, cereals etc., in diet
Cavya, tvak, pippalīmūla etc., ending in jīraka	Relieves indigestion	Powdered and fried in ghee: used in preparing gruel with curd: or with juices of kapittha etc.

Pancakōla soup; radish soup with pepper, spiced meat soup with fat, sour pomegranates and butter; buttermilk, sour gruel, wine and ariṣṭa	Relieves digestive disorders	Recommended as diet
Yavāni, āmalakī, harītakī etc., ending in marica (takrāriṣṭa)	Relieves digestive disorders and piles	Powdered with five salts and fermented in buttermilk. Buttermilk especially efficacious in digestive disorders
i. Candana, padmaka, uśīra etc., ending in nimba. ii. Kirātatikta, indrayava, vīra etc., ending in utpala (candanādya ghṛta)	Efficacious in pittaja disorder of digestion	Group i. boiled in water and concentrated; cooked with ghee and paste of ii.
Śuṇṭhī, ativiṣā, mustā etc., ending in kaṭukā - rōhiṇī (nāgarādya cūrṇa of Kṛṣṇātreya)	Efficacious in pittaja disorder of digestion, piles, blood in stools	Powdered and consumed with honey followed by water of boiled rice
Bhūnimba, kaṭukā, trikaṭu etc., ending in kuṭaja bark (bhūnimbādya cūrṇa)	Relieves digestive disorders, gaseous lumps of abdomen, pallor, jaundice, prameha	Powdered and consumed with cold water and jaggery
Vacā, ativiṣā, pāṭhā etc., ending in nimba leaves and fruits	Relieves digestive disorders, gaseous lumps of abdomen, pallor, jaundice, prameha	Added to bhūnimbādya formulation for better effect
Kirātatikta, vacā, trāyamāṇa etc., ending in parpaṭaka (kirātādya cūrṇa)	Relieves digestive disorders, colic, gaseous lumps of abdomen, heart disease, jaundice, oral disorders	Powdered together and consumed with honey, urine or water
Palāśa, citraka, cavya etc., ending in dhānyaka	Effective in kaphaja disorders of digestion	Boiled in water and concentrated; used for drinking and preparing gruel; diet to be carefully designed as directed

Madhuka flowers, viḍaṅga, citraka etc., ending in manjiṣṭā (madhukāsava)	Stimulates digestive agni, promotes strength, settles kapha and pitta; good for other disorders as well	Boiled in water and concentrated; honey added and stored in a jar lined with medicated paste for a month
Durālabhā, āmalakī, dantī etc., ending in harītakī fruits (durālabhāsava)	Relieves digestive disorders, piles, kuṣṭha, polyuria; overcomes kapha and rakta pitta	Cooked in water and concentrated; jaggery, honey and other drugs added. Preserved in ghee-lined vessel for a fortnight
i. Haridrā, daśamūla, vīra etc., ending in jīraka ii. Priyaṅgū, mustā, manjiṣṭā etc., ending in plava (mūlāsava)	Improves appetite, constipation; overcomes kapha, heart disease	Group i. boiled in water and concentrated: filtered and mixed with honey and powder of ii.; preserved for a month
Pippalī, pulp of bibhītaka (piṇḍāsava)	Relieves several disorders	Ground with jaggery and water and preserved in a container in a heap of barley grains
Powder of viḍaṅga, pippalī, vaṁśalocana etc., ending in citraka (madhvāriṣṭa)	Stimulates digestive fire; regulates abdominal fire: relieves other disorders	An earthen jar is lined with pippalī paste and honey and exposed to aguru smoke: the powdered drugs are mixed with water preserved in it for a month
Pippalī, pippalīmūla, yavakṣāra etc., ending in śuṇṭhī	Controls kaphaja disorders of digestion; improves digestion promotes strength	Powdered; consumed with warm water

Biḍa, kāḷalavaṇa, svarjikṣāra etc., ending in citraka (kṣāra ghṛta)	Stimulates digestive fire	Burnt and converted to alkali by washing repeatedly; ghee added and cooked
Pippalī, pippalīmūla, pāṭhā etc., ending in vacā	Settles vāta and kapha-induced disorders; counters poisons	Ground with five salts and boiled in curd and ghee: when dry, it is incinerated in a closed vessel; powder consumed with ghee
Durālabhā, karañja, saptaparṇa etc., ending in āragvadha	Improves digestive disorders	Powdered and burnt with cow's urine
Bhūnimba, kaṭurohiṇi, paṭola etc., ending in parpaṭa (first kṣāra)	Improves digestion	Burnt with buffalo's urine, alkali ingested
Haridrā, dāruharidrā, vacā etc., ending in mustaka (second kṣāra)	Improves digestion	Burnt with goat's urine, alkali ingested
Stem of snuhi, three salts, vartāka etc., ending in citraka (kṣāraguṭikā)	Relieves indigestion, cough, shortness of breath, piles etc.	Burnt together and made into pills; consumed after meals as alkali
Kuṭaja, ativiṣā, pāṭhā etc., ending in citraka (fourth kṣāra)	Beneficial for digestive disorders, pallor swelling, piles,	Powdered and cooked in the alkali of palāṣa and cow's urine in iron vessel; consumed with warm water or wine
Triphalā, kaṭabhi, cavya etc., ending in devadāru (fifth kṣāra)	Strong stimulant of digestion; relieves urinary retention, splenic enlargement, cough, diarrhea, pain in the heart region etc.	Mixed with five salts and soaked in curd, ghee and oil; incinerated in a closed vessel on mild fire; consumed with ghee

A physician should advise medical formulations for stimulating digestion Oonly after the five evacuative measures have been administered to the patient in the manner explained earlier. The specific combination of evacuative measures and formulations for a patient should take into account, among other things, the doṣa or doṣas which are perturbed in that particular disorder. Symptomatic treatment should be given whenever necessary; an obese patient with kapha should be given rough foods, appetisers and bitter herbs, but an emaciated patient with kapha should be given rough as well as lubricant substances. If pitta is in excess, bitter substances should be given with sweet substances, and vāta disturbance should be countered by lubricant, salty and sour substances. All these measures have the goal of stimulating the digestive fire.

Dietary considerations

Ghee plays an important role in treating digestive disorders. A weak digestive fire associated with immature stools is stimulated quickly by ghee treated with drugs, which also restores the normal

course of samāna vāyu. On the other hand, persons with hard stools would respond favourably to ghee in good quantity with salt during meals. If the digestive fire is weakened by the excessive intake of ghee and other lubricant substances, medicated powders, aristas etc., should be administered. Weakened digestive fire in each circumstance calls for a different approach in therapy. For example, if associated with eructation, belching and other signs of the upward movement of vāta, lubricant and non-lubricant enemas would be appropriate; if caused by the perturbation of doṣas, evacuation followed by specific formulations would be necessary, and if provoked by fasting, ghee with gruels should be the mainstay of treatment. When the disease has become chronic with emaciation, light diet and meat soup of wild animals with sour additives would be beneficial in improving the patient's general health and digestion.[6] The digestive fire is not enhanced by fasting or overeating but by the ingestion of lubricant articles of food, powders, ariṣṭas and so on, and by taking care to eat only after the previous meal has been digested. When the doṣas are balanced, the digestive fire settles in its proper place (the mid-portion of the body), and the individual is healthy and well.

What happens if the digestive fire becomes excessive?[7] When the kapha level declines, fiery pitta gains relative ascendancy in the gut and is further blown up by vāta. The food is digested very quickly and the unquenched pitta then goes on to consume the constituents of the body, leading to progressive debility and death. When the digestive fire is intense, food may temporarily assuage it but the burning process soon resumes and manifests in thirst, burning sensation, shortness of breath, fainting and other disorders.

Patients who suffer from overactive digestive fire should be given heavy, lubricant, cold and sweet food and drinks even in the presence of a digestive disturbance. Rice cooked in milk or with pulses, jaggery products, preparations of fat and flour, and fatty meat of aquatic animals should be on his menu. When hungry, gruel mixed with beeswax or a drink of ghee is desirable. If bloodletting had been performed a drink prepared from wheat flour, milk boiled with sugar, ghee with jīvanīya group of drugs, powdered oily fruits with sugar, three fats (excluding sesame oil) cooked with meat soup and wheat flour mixed with three fats etc., are other items of diet which would benefit the patient. It may be necessary to purge the patient more than once to eliminate pitta by administering milk boiled with śyāma and trivṛt. In short, food that is sweet, heavy, fatty and kapha promoting is agreeable for this category of patients.

CONCLUSION

There are three types of food habits which are harmful and can bring about death, and should be avoided. These are the eating a mix of healthy and unhealthy food, eating more or less than necessary at improper hours, and eating when the previous meal has not been digested. Eating a meal at night, even when the day meal has not been digested, need not cause trouble because of the physical and mental activities of the individual during the day. However, it is harmful if the person eats again during the day when the night meal has not been digested. This should be avoided at all costs.

50 *Disorders of Pallor (Pāṇḍuroga) (Anemias)*

Disorders of pallor may be caused in five ways, by the three doṣas singly or jointly, and by the eating of earth. They occur when the three doṣas, particularly pitta, engulf the dhātus, and are marked by the unfastening and greater heaviness of the dhātus. The colour, strength and lubricity of the body decline, and blood, fat and body essence become deficient.

The disorders of pallor have several causes such as unwholesome food (too hot, sour, salty or caustic articles, large quantities of blackgram, oil cake or sesame oil), unsound habits such as day sleep, physical activity and sexual intercourse when a meal is being digested, erroneously conducted evacuative therapy, imperfect adjustment to seasons and the suppression of natural urges especially under the spell of sexual desire, fear, anger and grief. This sets the stage for the perturbation of pitta which is located in the heart and its dissemination by vāta through the ten major vessels throughout the body. Lodged between the layers of skin and muscle, pitta joins with kapha, vāta, blood, skin and muscle to produce varied hues such as light or deep yellow or green, dryness and absence of sweat and fatigue. As it progresses, other signs and symptoms appear: ringing in the ears, poor digestion, weakness, loss of appetite, dizziness, fever and shortness of breath. The patient may speak little, feel his limbs are being squeezed, and may develop swelling around the eyes, greenish discolouration, loss of hair and sheen of skin, irritability, somnolence, intolerance to cold, pain in the limbs and easy fatiguability. These are some features which are shared by all types of disorders of pallor.[1]

When a person with a vātala constitution eats food which perturbs vāta, he would develop a pallor with a darkish shade, dryness and reddishness of the body, aches and pains of various types and severity, tremors, headache, swelling, constipation and weakness. When pitta is disturbed in an individual with pittala constitution, he would have yellowish colour of the body, urine and feces, fever, vomiting, fainting, sweating and longing for cold. The person would dislike hot and sour food and have acid regurgitation with foul smell, loose stools and weakness. If the pallor is due to the perturbation of kapha in a śleṣmala person, the clinical features would include heaviness, drowsiness, vomiting, goose-flesh, dizziness and fainting, shortness of breath with cough, fatigue, loss of appetite, restricted speech, pale urine and stool, liking for hot and rough food and swelling. Many of these individual features of each doṣa would be seen in a mixed form when all the three doṣas are perturbed.[2]

When patients with pallor feed upon soil, the astringent, salty or sweet quality of the earth would perturb the vāta, pitta and kapha. The undigested earth would occlude the body channels, weaken sense organs, impair digestion and ruin the colour and strength of the body. The patient would also develop swelling of the face, feet, lower abdomen and genitalia, and pass worms, blood and mucus with loose stools.

When the disease has lasted long and coarsened the body, or has caused swelling with yellow vision, it is no longer curable. The outlook is equally bad if there is severe pallor, vomiting, fainting, anxiety and much depletion of blood.[3]

KĀMALĀ

If the patient with pallor consumes food articles which perturb pitta, pitta consumes flesh and blood and causes a condition known as kāmalā. The patient's eyes, skin, nails and face turn yellow, feces and urine acquire reddish and yellow colour, the senses become dysfunctional and he acquires a frog-like appearance. Indigestion, weakness, loss of appetite and lassitude accompany the illness, which arises primarily from the accumulation of disturbed pitta in the gut or blood. When the accumulation of pitta in the gut is chronic and fixed its cure is doubtful (kumbha kāmalā). If the feces and urine take on a blackish yellow colour, or the patient develops severe swelling of the body with the appearance of blood in the eyes and body orifices, or has other features such as fainting, drowsiness, confusion or loss of consciousness the prognosis is equally grave. On the other hand, the favourable cases of pallor with no yellow colouration should be managed initially by lubricant therapy followed by emesis and purgation; those with yellow colour should be purged with bitter herbs. Both types of patients should thereafter be given agreeable food such as śāli rice, barley and wheat with soup of lentils or meat of wild animals. Medical formulations should be prescribed according to the specific perturbation of doṣa. For lubricant therapy, pancagavya, mahātikta and kalyāṇaghṛta are specially effective.[4]

Formulations[5] for initial lubricant therapy

Formulations	Actions	Remarks
Dāḍima, dhānyaka, citraka etc., ending in pippalī (dāḍimādya ghṛta)	Relieves pallor, heart disease, piles, splenic enlargement, vāta/pitta disorders	Cooked in water with ghee
Kaṭukarohiṇī, mustā, haridrā; also paṭola, candana, murvā etc., ending in devadāru (kaṭukādya ghṛta)	Relieves internal hemorrhage, piles, bleeding from female genital tract, swelling	Prepared as paste; cooked in ghee and milk and concentrated
Harītakī fruits, stalks of fruits (pathyāghṛta)	Relieves pallor and gaseous lumps of abdomen	Decoction of hundred fruits and paste of fifty stalks cooked in ghee
Dantī fruits, ripe and unripe (dantīghṛta)	Relieves splenic enlargement, pallor and swelling	Decoction of ripe fruits cooked in ghee with paste of unripe fruits
Dry grapes (drāksāghṛta)	Relieves pallor, polyurias, abdominal lumps, jaundice	Paste cooked in old ghee
Haridrā, nimba, balā etc., ending in madhūka (haridrādi ghṛta)	Effective for treating jaundice	Cooked in milk and buffalo's ghee
Cow's urine, ghee from buffalo's milk, dāruharidrā	Effective in treating pallor and kāmāla	Urine cooked in double the volume of ghee and paste of dāruharidrā
Dāruharidrā, kālīyaka, buffalo's ghee	Effective in treating pallor and kāmāla	Decoction of dāruharidrā cooked in buffalo's ghee and paste of kālīyaka

Having accomplished lubricant therapy with the above formulations, the patient with disorders of pallor and allied conditions like kāmalā should be purged by administering copious amounts of milk or milk mixed with cow's urine. There are specific herbal drugs for disorders of pallor caused by the perturbation of pitta or kapha, or associated with jaundice, or with cough, dyspnea, fever and bowel complaint. Cow's urine is nearly always used in the preparation of these herbal remedies. The patient should also be given iron powder (rust) soaked in cow's urine for a week as part of the treatment.[6]

Other formulations[7]

Formulations	Actions	Remarks
Trikaṭu, triphalā, mustā etc., ending in citraka (navāyasa powder of kṛṇātreya)	Relieves pallor disorders, heart disease, piles, jaundice	Powdered and mixed with nine parts of iron powder (rust); taken with honey and ghee
Trikaṭu, triphalā, mustā etc., ending in devadāru (maṇḍūra vaṭaka)	Excellent for pallor disorders; also relieves indigestion, swelling, piles, jaundice, splenic enlargement etc.	Powdered and cooked eight times in cow's urine: iron rust as a paste twice the quantity of the powder added and mixed; given as boluses with buttermilk
Ashes (bhasma) of svarṇamākṣika, rājatamākṣika; śilājatu; etc., ending in viḍaṅga	Relieves disorders of pallor	The metal powders are mixed with the powdered vegetable products as directed and consumed with honey. Diet restrictions to be observed
Triphalā, trikaṭu, citraka etc., ending in viḍaṅga. Rajatamākṣika, svarṇamākṣika, lauhā bhāsma (yogarāja)	Remedies all illnesses; relieves disorders of pallor, cough, phthisis, polyuria, emaciation, intermittent fever,	All items powdered finely and mixed in the stipulated proportion: mixed with honey and stored in iron vessel; called yogarāja 'nectar'

	epilepsy, jaundice, piles etc.	
Śilājatu, indrayava, triphala etc., ending in kaṇṭakārī (fruits and roots) (śilājatu vaṭaka)	Remedies disorders of pallor, fever, splenic enlargement, asthma, heart disease, phthisis, swelling, abdominal disorders etc.	All items powdered as per directions, mixed with honey and made into boluses; consumed on empty stomach with pomegranate juice, meat soup etc.
Punarnavā, trivṛt, trikaṭu etc., ending in mustā: iron rust paste (punarnavā-maṇḍūra)	Relieves disorders of pallor, splenic enlargement, piles, intermittent fever, swelling, abdominal disorders etc.	Herbal drugs powdered and mixed with twice the quantity of iron rust: cooked in cow's urine and made into pills, and taken with buttermilk
Dāruharidrā bark, trikaṭu, viḍaṅga and lauha bhasma	Efficacious in kāmalā and disorders of pallor	Powdered and triphalā, consumed with honey and ghee
Triphalā, haridrā, dāruharidrā, kaṭurōhiṇi and lauha bhasma	Relieves kāmalā (jaundice) and disorders of pallor	Powdered and mixed with honey; to be licked or sucked
Vamśalocana, śuṇṭhī, madhuyaṣṭika etc., ending in drākṣa (dhātryāvalēha)	Relieves jaundice, disorders of pallor and of pitta	All ingredients powdered, mixed and cooked in āmalakī juice as directed; add honey when cool
Trikaṭu, triphalā, cavya etc., ending in kuṭaja seeds (maṇḍūra vaṭaka)	Relieves disorders of pallor, splenic enlargement, abdominal disorders, piles	Herbal drugs powdered and mixed with equal quality of maṇḍūra cooked in cow's urine as directed and made into bolus when cool
Manjiṣṭā, haridrā, drākṣa, balā root; lauha bhasma, lodhra, jaggery (gauḍā ariṣṭa)	Relieves disorders of pallor	Herbal products powdered and mixed with metallic ingredients and jaggery; consumed as ariṣṭa

i. Bījaka, triphalā, drākṣa etc., ending in lākṣā ii. Trikaṭu, vyāghranakha, uśīra etc., ending in kuṣṭha (bījakāriṣṭa of Ātreya)	Relieves abdominal disorders, disorders of pallor, swelling, jaundice etc.	Group i. boiled in water and concentrated; filtered and mixed with sugar and honey; mixed with ii. at this stage and preserved for 10 days in a ghee-lined vessel surrounded by barley
Āmalakī, pippalī, (dhātryariṣṭa)	Relieves jaundice, disorders of pallor, heart disease, cough, intermittent fever etc.	Juice of fruits mixed with honey, pippali and sugar; preserved in a ghee-lined vessel for a fortnight

Even though various medical formulations have been outlined, a wise physician should not hesitate

to change the line of treatment to address the specific perturbation of doṣas in a given patient. One can only generally indicate that the therapeutic measures should be dominantly fatty in vātaja, bitter and cold in pittaja and pungent, rough and hot in kaphaja and sannipāta disorders.

EARTH EATING (PICA)

When disorders of pallor are associated with pica, the initial step should be to eliminate the ingested earth by purgation. This should be followed by the administration of tonics of ghṛtas. Ghṛtas prepared with trikaṭu, bilva, haridrā etc., or with nāgakesara, madhuyaṣṭī, pippalī etc., are especially beneficial. If the patient persists, the physician should give him earth soaked with corrective drugs such as viḍaṇga, elā, ativiṣā *etc.*[8]

JAUNDICE WITH WHITE STOOLS

In general, disorders of pallor should be treated by countering the perturbed doṣa in each case. However there are certain manifestations which call for specific therapy. An example is the passage of white stools like the paste of sesamum which points to the blockage of bile by kapha. The ingestion of rough, cold, heavy and sweet food, excessive physical activity and suppression of natural urges upset vāta which joins perturbed kapha and blocks the passage of bile which is dislodged from its normal location. Consequently the patient has yellow eyes, urine and skin, passes white stools, and complains of heaviness in the heart region. Thanks to the displacement of pitta to blood, the patient develops weakness, indigestion, shortness of breath, fever and other symptoms. Such a patient should consume a diet consisting of cereals, sour, hot and salted soups of bird meat or horsegram, and juice of mātulunga mixed with honey, pippalī, marica and śunthī. This should continue till stools regain normal colour when the treatment mentioned earlier for jaundice should be started.

Another specific condition among disorders of pallor is called halīmaka where the patient develops a green or blackish discolouration with severe debility, loss of libido, fever, poor digestion, shortness of breath and giddiness. This is caused by the perturbation of vāta and pitta and should be managed by lubricant therapy followed by preparations such as buffalo's ghee and guḍūcī juice. The patient should be purged and subsequently given sweet articles such as drākṣaleha and appropriate ghees. Lubricant and milk enemas, ariṣṭa and grape wine to improve appetite would also be in order.[9]

51 *Hiccup; Shortness of Breath (Hikkā; Śvāsa)*

CAUSES AND MECHANISMS

There are many disorders which put on end to life but few are as fatal as severe hiccup and shortness of breath which lead the way to death. They are similar in so far as the perturbed doṣas are kapha and vāta, which break out from the seat of pitta and dry up the constituents to the detriment of life, unless the patient is managed expertly. Hiccup and shortness of breath share common causes which could be as varied as exposure to dust, smoke, wind, cold place and water, excessive physical activity including walking and sexual intercourse, irregular meals, distension of abdomen, diarrhea and vomiting, internal bleeding, upward movement of vāta, chest injury, disorders of pallor and poisoning. Other causes relate to the ingestion of inappropriate and heavy items of food such as blackgram, oil cake, sesamum and its oil and meat of animals living in marshy land, use of procedures and kapha-aggravating agents which block the body channels and air current in the throat and chest. In both hiccup and shortness of breath, vāta in the channels for vital breath in the chest is perturbed; there is accumulation of kapha which obstructs the current of vital breath. The early clinical features of hiccup are the feeling of heaviness in the chest and throat, gurgling sound in the abdomen and abnormal taste in the mouth while the onset of shortness of breath is preceded by pain on the sides and the heart region, abnormal rhythm of breathing and constipation.[1]

HICCUP

Hiccup manifests in different forms.[2]

MAHĀHIKKĀ

In a wasted patient with little strength the breath becomes weak, and the combined perturbation of vāta and pitta grasps his throat. This is followed by a loud hiccup which may occur once, twice or thrice at a time. The current of vital breath blocks body channels in vital body parts, saps body heat and robs the person of consciousness. The body becomes rigid, the passage of food and drinks stops, the eyes water and the eyebrows droop, temple becomes numb, voice falters, restlessness and delirium set in. Mahāhikkā is rooted deep in the body and is associated with violent movements, noisy breathing and great severity. It is quickly fatal.

GAMBHĪRA HIKKĀ

The hiccup is severe in the patient who is debilitated in mind and body; his chest is wasted and breathing laboured and noisy with the intermittent drawing in and extension of limbs, and holding of sides. The body is stiff and painful and the hiccup seems to spring from the navel or large bowel. The

body may bend, and fainting may occur followed by stoppage of breathing and loss of consciousness.

VYAPETA HIKKĀ

The hiccup occurs after taking a meal or drinks and gets worse when the food is digested. The patient may develop thirst, diarrhea, confusion, watering of eyes, yawning, dryness of mouth and abdominal distension. The hiccup seems to take origin from the root of the neck and obstructs breathing.

KṢUDRA HIKKĀ

Mild and curable, the hiccup occurs when physical activity drives vāta from the belly to the throat. It does not interfere with breathing or eating but worsens on exertion. It settles spontaneously and is located in the heart, lung, throat and palate.

ANNAJA HIKKĀ

Slow and effortless, the hiccup is induced by too much and very quick eating or drinking or consuming large draughts of wine. It may also be caused by bouts of intense anger, too much talk or laughter, weightlifting or excessive walking - all of which tend to drive the air current upwards to the chest and produce hiccup. It is innocuous and settles with food and drink.

YĀMIKA HIKKĀ

Hiccup occurs in a person who suffers from perturbation of doṣas and has been greatly weakened by poor nutrition, disease, old age and too much sexual indulgence. It is accompanied by thirst, delirium and loss of consciousness. It is fatal unless the constituents and senses are strong.

SHORTNESS OF BREATH (ŚVĀSA)[3]

Vāta moves with kapha ahead, and blocks not only body channels but also its own course and gives rise to shortness of breath which can be classified as follows: MAHĀŚVĀSA

The upward current of air in the presence of obstruction causes deep and noisy breathing, discomfort and violent movements. Abnormal facies, rolling eyes, retention of urine and feces, inaudible voice, and excessive sweating are also characteristic of mahāśvāsa. Its outlook is poor.

ŪRDHA ŚVĀSA

Expiration is prolonged but inspiration does not occur or does not seem to occur: mouth and airway are clogged with mucus; the look is vacant and eyes roll. The patient experiences dryness in the mouth, develops restlessness and fainting which merge into unconsciousness followed by death.

CHINNA ŚVĀSA

All the air currents in the body are disordered and the patient breathes intermittently or not at all with severe pain in the vital parts of the body. Other features include hard stools, sweating, burning sensation over the region of the urinary bladder, rolling eyes, severe debility, abnormal colour and loss of consciousness. Death occurs soon in chhinna śvāsa.

TAMAKA ŚVĀSA

When the disordered course of vāta touches the air passages in the head and neck, it raises and accumulates mucus; this is followed by nasal congestion and intractable shortness of breath. The patient develops bouts of cough during which he may faint. Expectoration may give temporary relief even as its absence would worsen the difficulty in breathing. His voice, if at all audible, would be hoarse. Shortness of breath is worsened by the lying position; unable to sleep, the patient finds comfort in sitting up. The eyes may protrude and the forehead may show much sweating. He may complain of severe pain, parched mouth, and bouts of difficult breathing which may worsen with exposure to cold, clouds, easterly wind and articles which perturb kapha. If it is of recent origin cure or palliation may be effected.

Pratamaka and santamaka śvāsa

Pratamaka is the type of shortness of breath which accompanies fever and may lead to unconsciousness. Santamaka occurs when the opposite course of vāta (udāvarta), dust, indigestion and the suppression of natural urges upset the normal movement of vāta. The symptoms get worse in the dark and are relieved by cold foods.

MANAGEMENT

Of the various hiccups and shortness of breath the fatal types should not be treated at all; the others should be managed quickly and vigorously with appropriate medication. The treatment for hiccup and shortness of breath is the same because their causes and location are identical.

General approach

As the first step in treatment, the patient should be given lubricant therapy and be rubbed with salted oil, followed by fomentation. This has the effect of melting the thick deposits of mucus and clearing the body channels for the easy movement of vāta. The patient should then be given rice with fatty supplements, soup of fish meat or pork or the top layer of curd. As kapha gradually builds up on this diet the patient should be given an emetic which is compatible with vāta. After emesis, he would gain relief and the body channels will regain their free flow. If the patient does not fully recover with these measures, it may be advisable to inhale medicated smoke from haridrā, patra, eraṇḍa root etc., or other formulations which include animal products.[4]

Fomentation is not suitable for pregnant women, those with pittala constitution and suffering from pitta perturbation manifested by burning sensation, sweating, bleeding or loss of strength. In such patients, the chest and throat should be fomented with an appropriate mix of substances such as powdered sesamum, blackgram and wheat on the one hand and vāta-alleviating and lubricant agents on the other. If the patient has fever and poor digestion, measures such as fomentation, fasting or emesis may be administered. When vāta reverses its normal direction and moves up and the patient has abdominal distension, plant products such as mātuluṅga, hiṇḍgu, pīlu, and salt should be added to the food. It is necessary for the physician to choose an appropriate regimen, depending on the doṣa perturbed. In general, patients with hiccup and dyspnea and those who are strong would have perturbation of kapha, requiring emesis and purgation, or medicated smoke: those who are weak (including children and the old) are susceptible to disturbed vāta, and would respond to lubricant therapy and a saturating diet.[5]

Special diet and formulations

Those suffering from hiccup and shortness of breath would benefit by taking soups and gruels which vary in composition and methods of preparation.[6] Some of the formulations to be used as drinks and medications are listed below:

Formulations (vegetable products)[7]	Actions	Remarks
Pāṭhā, murvā, rāsnā, saralā, devadāru: strong wine	Relieves hiccup and shortness of breath	Medications crushed and preserved in wine: salt added before drinking
Hiṅgu, sauvarcala, kola etc. ending in balā	Relieves hiccup and shortness of breath	Powdered and mixed in mātuluṅga juice; taken with sour gruel
Suvarcalā, śuṇṭhī, bhārgī	Relieves hiccup and shortness of breath	Mixed with sugar and consumed with hot water
Paste of bhārgī and śuṇṭhī or pītadru, citraka, āsphota and muṛvā or marica and yavakṣāra	Relieves hiccup and shortness of breath	Consumed with water
Madhulikā, vamśalocana, śuṇṭhī, pippalī	Beneficial when pitta is perturbed	Utkarika cooked in ghee with the medications
Sauvarcala, trikaṭu	Relieves shortness of breath due to disturbed vāta and pitta	Juice of saurvarcala mixed with milk, ghee, and trikaṭu; consumed with śāli rice water
Flowers of śirīṣa or saptaparṇa, pippalī	Relieves shortness of breath due to disturbed kapha and pitta	Juice of flowers added with pippalī and honey
Śaṭī, coraka, jīvantī etc., ending in bāḷaka (saṭyādi cūṃa)	Relieves hiccup and tamaka śvāsa	All ingredients (equal parts) mixed with eight parts of sugar and powdered
Pearl, coral, cat's eye etc., ending in lead; seeds of śaṇa and apāmārga (muktādya cūṛṇa)	Relieves cough, hiccup, shortness of breath	All metals and seeds powdered in equal parts: taken with honey and ghee; may be externally used (in the eye) for eye diseases
Śaṭī, puskaramūla, āmalakī	Beneficial in hiccup and shortness of breath	Powdered and consumed with honey
Bhūmyāmalakī, drākṣa, juice of cow or horse dung, guḍa, dry ginger	Beneficial in hiccup and shortness of breath	Juice mixed in equal parts; taken orally or as nasal inhalation
Bulbous roots of garlic, onion or candana, breast milk	Beneficial in hiccup and shortness of breath	Mixed and taken as nasal application (nasya)
Hot and cold milk	Relieves hiccup	Added with honey and sugar consumed alternately

Juice of ām laki, kapittha, pippalī	Relieves hiccup quickly	Honey added and processed with ghee as ghṛta to be followed by other dietary supplements as advised
Daśamūla, pippalī, sauvarcala etc., ending in kāyasthā	Relieves hiccup and shortness of breath	Cooked in ghee with the top layer of curd as ghṛta
Tejovatī, harītakī, kuṣṭha etc., ending in hingu (tejōvatyādi ghṛta)	Relieves hiccup, shortness of breath and other disorders such as piles, heart disease	Ghee added and cooked four times in water as ghṛta
Realgar, sarjarasa, lac etc., ending in elā (manaḥśilādi ghṛta)	Relieves hiccup and shortness of breath	Cooked in ghee

Ghṛtas are particularly useful when hiccup and shortness of breath persist, throat, palate and chest become dry and the body is coarsened.

Formulations (animal products)	Actions	Remarks
Flesh of rabbit, flesh and blood of porcupine	For shortness of breath due to disturbed vāta	Cooked with pippalī and ghee
Madhuka, pippalīmūla, jaggery, juice of cow or horse dung	Relieves cough, shortness of breath and clears body channels	Mixed with ghee and honey
Excrement of ass, horse, camel, boar, sheep or elephant	Efficacious when kapha is disturbed	Extract mixed with honey
Ash of aśvagandhā or porcupine flesh	Relieves hiccup and shortness of breath	Relieves hiccup and ghee
Hairs of porcupine etc., hide, bones or hoofs of hoofed animals	Relieves cough, shortness of breath	Burnt singly or jointly and consumed with honey and ghee

[7]

Sometimes physical and emotional jolts such as sprinkling of cold water, springing a surprise or fear or inciting anger, may arrest hiccups.

In summary, management which has the dual objectives of settling kapha and vāta, which possesses heat and restores the normal direction of air current in the body must be adopted. Converely, a course of treatment that relieves kapha but perturbs vāta or vice versa is likely to be harmful. Promotive regimens on the whole carry little risk in the treatment of hiccup and shortness of breath; reducing measures carry some risks.[8]

52 *Cough (Kāsa)*

Cough is brought on by five causes - vāta, pitta, kapha, chest injury and wasting. Its early signs include irritation and itching in the throat and difficulty in swallowing. When the downward movement of vāta is obstructed, its normal course is reversed and it moves up to fill all the openings in the head. Pain, shaking of the body, stiffness and aching of the jaw, eyes, neck, back, chest and sides follow the attack of cough which may be dry or productive of phlegm.

When the cause of cough is perturbed vāta, the triggering factors are starvation, ingestion of rough, cold and incompatible foods, sexual excess, and suppression of natural urges. The patient develops a dry cough with severe pain in the head, chest and sides, hoarseness of voice, dryness of mouth and throat, explosive noise during cough, anxiety, profound weakness and even fainting. The bout of cough may temporarily settle following the expectoration of a little tenacious phlegm. Oily, sour, salty or hot articles taken by mouth may also provide relief. When the food is digested and the wind moves upwards, the cough would, however, reappear.

The pittaja variety of cough owes its origin to hot, pungent, sour or caustic foods, exposure to the heat of fire and sun, and fits of anger. Here, the patient experiences a bitter taste in the mouth, thirst, burning sensation, loss of appetite and dizziness. The eyes may appear yellowish and the voice hoarse while the phlegm appears mingled with pitta and yellowish in colour. The cough may be so violent that the patient might imagine that he is seeing the stars.

The kaphaja type of cough is roused by heavy, greasy and sweet foods, absence of physical activity and the habit of sleeping too long.

The clinical features would include loss of appetite, nausea and vomiting, nasal congestion, heaviness, goose-flesh, sweet taste in the mouth and uneasiness. While coughing the patient would painlessly bring out copious phlegm which may be oily, thick and sweetish.

The fourth type of cough is caused by chest injuries (uraḥkṣata) which perturb vāta. The injuries may result from weightlifting, competitive riding of horses and elephants and sexual excess. Dry to begin with, the cough soon becomes painful and produces blood stained phlegm. The patient experiences severe pain over the body and particularly, the chest and throat. He would also have fever, shortness of breath, hoarseness of voice and make cooing sounds while coughing.

The fifth kind of cough results from wasting (kṣaya.) Irregular meals and incompatible food, sexual excess and the suppression of natural urges perturb the three doṣas in a person who is already depressed or anxious, and lead to progressive wasting and cough. He would alternately feel hot and cold and remain emaciated in spite of eating much. He would bring up foul-smelling, greenish, red and purulent phlegm and feel that his heart gets displaced during the fits of violent cough. His face

would look clean and oily, eyes appear shiny, and hands and soles smooth. Fever of mixed type, pain on the sides, nasal congestion, loss of appetite, loose or hard stools and hoarseness of voice are other common features. Unless the patient's constitution is strong and the disease is of recent onset, cough due to chest injuries and wasting is fatal. On the other hand, the mild cough that occurs in old age is manageable.[1]

MANAGEMENT

The cough caused by perturbed vāta, pitta and kapha is curable while that produced by chest injuries and wasting are capable of palliation with sound management. This sums up the overall therapeutic basis for the treatment of cough.

VĀTAJA COUGH

When the patient is emaciated, the initial step consists of promotive measures including fat-rich formulas such as ghṛtas, enemas, gruels and meat soup. They should be supplemented by vāta-alleviating therapy which includes drugs, medicated smoke, massage and oil fomentation. Each symptom calls for an appropriate response such as inadequate elimination of stools and flatus by enema, dryness of mouth and throat by taking ghṛta before meals and the elimination of excess pitta and kapha by purgation. Some of the formulations used are listed below:

Formulations with ghṛtas[2]

Formulations	Actions	Remarks
Kaṇṭakārī, guḍūcī (kaṇṭakārī ghṛta)	Relieves vātaja cough and improves digestion	Extracts cooked with ghee
Daśamūla, pippalī, pippalīmūlā etc., ending in hingu (pippalyādya ghṛta)	Relieves cough, shortness of breath, heart disease etc.	Daśamūla decoction cooked in ghee with the paste of other medications. Consumed, followed by top layer of gruel
Trikaṭu, triphalā, drākṣa etc., ending in vidārī (tryūṣaṇādya ghṛta)	Relieves cough, fever, abdominal lumps, jaundice, piles, phthisis etc.	Ghee cooked with four times quantity of milk and paste of medications
Rāsnā, daśamūla, śatāvari etc ending in barley grains (rāsnā ghṛta)	Relieves cough, upward current of vāta, head tremor	Boiled in water with goat's flesh and concentrated; cooked further with milk and jīvaniya group paste and ghee. May be taken as snuff, enema

Formulations other than ghṛtas[3]

Formulations	Actions	Remarks
Viḍaṅga, śuṇṭhī, rāsnā etc., ending in yavakṣāra	Relieves vātaja cough with phlegm, hiccup, indigestion	Powdered together and consumed with ghee
Yavakṣāra, svarjikṣāra, pancakōla etc., ending in udīcya	Relieves vātaja cough	Powdered together, strained and consumed with ghee
Durālābhā, śaṭi, drākṣa etc., ending in karkaṭaśṛṅgī	Relieves vātaja cough	Made into linctus with oil
Durālābha, pippalī, mustā etc., ending in śaṭi		Powdered with old jaggery and oil

Vidaṅga, rock salt, kuṣṭha etc., ending in realgar	Overcomes cough, shortness of breath, hiccup	Made into linctus with honey and ghee
Citraka, pippalīmūla, trikaṭu etc., ending in drākṣa	Relieves cough, shortness of breath, heart disease, abdominal lumps	Made into a paste and mixed in a decoction of kaṇṭakārī, sugar candy and ghee and cooked: honey, pippalī and vamśalocana added later
Daśamūla, kapikacchu, śankhapuṣpī etc., ending in harītakī fruits (agastya harītakī)	Relieves cough, shortness of breath, gets rid of wrinkles and grey hair, beneficial for heart disease, wasting etc.	Cooked in water, filtered; harītakī from the list added with jaggery and boiled again; powder of pippalī, ghee and oil added; honey added before administration (rasāyana)
Saindhava, pippalī, bhārgī, śuṇṭhī, durālabhā with sour pomegranate juice	Relieves cough	
Bhārgī, śuṇṭhī with warm water	Relieves cough	
Core wood of khadira with wine or curd water	Relieves cough	
Pippalī paste fried in ghee with rock salt	Relieves cough	

Formulations for medicated smoke[4]

These are prescribed when patients with cough develop nasal congestion, headache and heart strain. It helps to dislodge tenacious phlegm in the chest and promote its expectoration.

While the above medications are being administered, the patient with vātaja cough should be given a promotive diet of śāli rice, barley, wheat, meat soup, gruel processed with medications such as

yavāni or pippalī, or decoction of daśamūla etc., or meat offish, cock, pig *etc.* There are several other medical formulas for supplementing the diet.[5]

PITTAJA COUGH

When pittaja cough is associated with copious phlegm, emesis should be induced with drugs as directed[6] and followed up by giving cold and sweet items of diet. If the phlegm is thin, trivṛt mixed with sweets would be appropriate; if thick, bitters should be given for purging. The principle is to give lubricant and cold substances for countering thin phlegm, and rough and cold for thick phlegm. The formulations consisting of eatables, lubricant substances and linctus preparations for managing pittaja cough are tabulated below:

Formulations (linctus)	Actions	Remarks
Śṛṇgāṭaka, lotus seeds, nīlī, gajapippalī	Relieves pittaja cough	
Pippalī, mustā, madhuyaṣṭī etc., ending in śuṇṭhī	Relieves pittaja cough	
Roasted paddy, āmalakī, drākṣa etc., ending in pippalī	Relieves pittaja cough	
Pippalī, padmaka, drākṣa, bṛhatī fruit juice	Relieves pittaja cough	
Dates, pippalī, vamśalocana, gokṣūra	Relieves pittaja cough	
Sugar, candana, drākṣa, honey, āmalaka fruits, utpala	Relieves pittaja cough	This and four formulations below are consumed as linctus with ghee and honey
Dried grapes, pippalī, sugar	Relieves pittaja cough	This and three formulations below are consumed as linctus with ghee and honey
Tvak, elā, trikaṭu etc., ending in bibhītaka	Relieves pittaja cough, shortness of breath, hiccup, wasting	Sugar, honey and ghee added
Pippalī, āmalaki, drākṣa etc., ending in sugar candy	Relieves pittaja cough	Boiled in milk and concentrated; honey added
Vidāri, sugarcane, lotus stalk	Effectively relieves pittaja cough	Juice mixed with milk, sugar candy and honey

There are many other formulas relating to diet and its combination with drugs for those with pittaja cough. What is appropriate from among the formulas should be chosen for individual patients keeping in mind the specific circumstances in each case.

KAPHAJA COUGH [7]

If the patient's constitution is strong, he should be given emetics followed by a diet consisting of barley, rough and hot foods and kapha-relieving drugs. Light diet, soup of horsegram or wild meat

with the alkali of pippalī and pungent seasoning are appropriate. Oils of sesamum, mustard and bilva are also good seasoning agents for the meal; they should be followed by drinks of pure honey, hot water, buttermilk or wine. Water in which puṣkaramūla, āragvadha root and paṭola had been soaked overnight should be consumed with honey thrice a day. Some formulations to be used in treating kaphaja cough are listed below:

Formulations	Actions	Remarks
Kaṭphala, kaṭṭṛṇa, bhārgī etc., ending in devadāru	Relieves cough due to vāta and kapha, shortness of breath, hiccup, fever	Decoctions in water mixed with honey and asafoetida
Pāṭhā, śuṇṭhī, śati etc., ending in gajapippalī	Relieves cough due to vāta and kapha, shortness of breath, hiccup, fever	Ground with hot water and consumed with rock salt and asafoetida.
Śuṇṭhī, ativiṣā, mustā etc., ending in śāli	Relieves cough due to vāta and kapha, shortness of breath, hiccup, fever	Ground with hot water and taken with rock salt and asafoetida
Pippalī, sugar candy and horsegram	Relieves kaphaja cough	Paste of pippalī fried in oil and mixed with sugar candy and decoction of horsegram
Kāsamarda, aśvaviṭ, bhṛṅgarāja and vartāka	Relieves kaphaja cough	Juice consumed with honey
Black tulasi	Relieves kaphaja cough	Made into juice
Devadāru, śaṭi, rāsnā, karkaṭasṛṅgī, durālabhā	Relieves kaphaja cough associated with vāta disturbance	Made into linctus with oil and honey
Pippalī, śuṇṭhī, mustā, harītakī, āmalakī, sugar candy	Relieves kaphaja cough associated with vāta disturbance	Made into linctus with oil and honey
Pippalī, pippalīmūla, citraka, gajapippalī, honey	Relieves cough	Made into linctus with due to kapha
Harītakī, tāmalakī, āmalakī, bhadramustā, pippalī	Relieves cough due to kapha	Made into linctus with honey

Devadāru, harītakī, mustā, pippalī, śuṇṭhī	Relieves cough due to kapha	Made into linctus with honey
Viśālā, pippalī, mustā, trivṛt	Relieves cough due to kapha	Made into linctus with honey
Sauvarcalā, harītakī, āmalakī etc., ending in śuṇṭhī	Relieves cough due to kapha and vāta	Powdered and consumed with ghee
Daśamūla decoction; puṣkaramūla, śaṭī etc., ending in hiṅgu (daśamūlādi ghṛta)	Relieves kaphaja cough, shortness of breath	Ghee cooked in daśamūla decoction and paste of other listed medications; consumed with postprandial drink
Kaṇṭakāri decoction; balā, trikaṭu, viḍaṅga etc., ending in gokṣurā (kaṇṭakāri ghṛta)	Relieves all kaphaja disorders, cough, hiccup and shortness of breath	Ghee cooked in the decoction and paste of other listed medications
Horsegram, pancakola (kulatthādi ghṛta)	Relieves all kaphaja disorders, cough, hiccup and shortness of breath	Ghee cooked in the decoction

In recalcitrant cases, medicated smoke as prescribed for vātaja cough may be beneficial. If the patient with kaphaja cough experiences darkness, it may indicate the associated disturbance of pitta and call for the management of pittaja cough as well. If kapha and vāta are jointly disturbed, kapha-relieving measures should have priority, whereas when pitta is additionally pitta-relieving therapy may be given.

KṢATAJA COUGH [8]

The cough induced by chest injury is of a serious nature and there should be no delay in treatment. The management is similar to that of pittaja cough but the therapy should take into account the disturbance of specific doṣas in individual patients.

A patient with severe pain in the body due to perturbed vāta and pitta should be rubbed with ghṛtas whereas oils should be used when the disturbance is that of vāta alone. If vāta disturbance is severe enough to cause pain in the sides and blood in the phlegm, the patient should be given the jīvanīya ghṛta outlined earlier. If he is emaciated, meat soups of various kinds should be given. If blood appears in the phlegm and other excretions from body passages, ghee should be given nasally and orally. The choice of diet and drugs depends on the specific disease manifestation in each patient. When the injury has healed but the patient suffers due to the accumulation of phlegm, medicated smoking with sticks made from ground meda, mahāmeda, madhūka, balā and atibalā is advised. There are other types of medicated smoke which employ minerals and animal products; these should be prescribed on the basis of the physician's assessment of the patient's status. A promotive formulation which is applicable in kṣataja cough is given below:

Formulations	Actions	Remarks
Pippalī, madhuka, sugar candy etc., ending in tila oil	Relieves cough, heart disease, debility; enhances fecundity	Paste of the drugs, cow's milk, goat's milk, sugarcane juice, flour of barley and wheat, mṛdvīka and āmalaka juice and oil cooked on mild fire, consumed with ghee and honey

KṢAYAJA COUGH [9]

When a patient with cough due to wasting presents with the florid picture of emaciation and long history, the advisability of treatment is in doubt. If the patient is strong and the history is short, treatment should be started after leaving no doubts regarding the difficulties in management. Initially, the therapeutic steps should be directed towards building up body tissues and improving appetite. If there is much accumulation of doṣas, oily enema and mild purgatives should be administered. A ghṛta prepared from āragvadha, trivṛt, grape and decoction of tilvaka and juice of vidārī would be beneficial. When pitta and kapha are low and the patient's body is wasted, ghee cooked with karkaṭaṣṛngi milk, balā and atibalā would be beneficial; if the patient has difficulty in passing urine or the urine is discoloured, a preparation consisting of ghee and milk cooked with vidari, kadamba and mustaka should be given. Sometimes a patient may have painful swelling of the genitalia, hip and groin, upon which he should be given a fatty enema with the top layer of ghee. In those who eat meat, progressing on a meat diet from that of wild animals to that of carnivorous birds would melt the phlegm in the body channels because of its hot nature and this would clear the passage for chyle.

Some of the formulations used in treating kṣayaja cough are outlined below:

Formulations	Actions	Remarks
i. Daśamūlas, triphalā, cavikā etc., ending in yava. ii. Śuṇṭhī, durālabhā, pippalī etc., ending in karkaṭaśṛngi (dvipancamūlādi ghṛta)	Beneficial in cough due to wasting	Ghee cooked in the decoction of i. and paste of ii.; two alkalis and five salts added
Guḍūcī, pippalī, muṛvā etc., ending in śuṇṭhī (gudūcyādi ghṛta)	Relieves wasting, cough, abdominal lumps	Decoction redecocted four times and concentrated: cooked in equal quantity of ghee
Kāsamarda, harītakī, mustā etc., ending in surasā	Relieves phthisis, cough of all types, splenic enlargement	Cooked with ghee, milk and grape juice
Āmalaka fruits, trikaṭu	Relieves cough with wasting, improves appetite and opens channels	Cooked with ghee and milk and consumed after meals
Harītakī fruits	Relieves cough and shortness of breath	Boiled in barley decoction; old jaggery, realgar, rasāñjana and pippali added and made into linctus
Burnt hair of porcupine	Relieves cough and shortness of breath	Mixed with ghee, honey and sugar
Alkali of castor leaves, trikaṭu, oil, jaggery	Relieves cough and shortness of breath	Made into linctus
Citraka, triphalā, jīraka etc., ending in drākṣa	Relieves cough and shortness of breath	Made into linctus
Padmaka, triphalā, trikaṭu etc., ending in rāsnā	Relieves all types of cough	Powdered in equal parts; honey, ghee and sugar added and made into linctus
Jīvantī, madhuka, pāṭhā etc., ending in devadāru (padmakādi leha)	Relieves all types of cough	Powdered in equal parts and made into linctus with honey and ghee

There are several other formulations for countering specific complaints such as hoarseness of voice, vomiting, diarrhea, earache and nasal congestion. They should be chosen as appropriate and the treatment should be directed toward the correction of the disturbed doṣas. A regimen which enhances appetite, builds body tissues, opens up channels and promotes strength should be put in place for a patient with kṣayaja cough which may involve all three doṣas. Of the five types of cough, the gravity of illness increases in order from the first to the fifth or from vātaja to the kṣayaja.[10]

53 *Diarrhea (Atisāra)*

Diarrhea has a legend. From Dakṣa's time in the remote past, tame animals were being sacrificed at vedic rituals. When the performers of rituals ran out of animals, Pṛṣadhra, to the horror of people, pushed cows into the sacrificial pit. When the sacrificial beef was eaten, diarrhea visited the humans because of its heaviness, heat, unfitness and untowardness![1]

TYPES

Diarrhea is of six types, classified according to cause, clinical features and management.

VĀTAJA

When a person with vātala constitution has too much exposure to sun and wind, is physically very active, eats very little or very rough food or drinks too much wine, indulges in too much sex or suppresses natural urges, vāta is perturbed and the digestive fire is impaired. The perturbed vāta carries the liquid excrements of urine and sweat to the large bowel and dissolves feces to produce diarrhea.[2]

The stools in different types of diarrhea differ in appearance and other characteristics. In the vātaja type, it contains undigested matter and mucus and has a fishy smell. It is loose enough to spread. The patient has abdominal pain due to the movement of vāta but passes little flatus with little noise. He may pass little urine. This picture is seen in the subtype known as āmātisāra. However if the food is digested, the stool would be frothy and small in volume and its passage would be associated with pain in the anal region, waist, low back, thighs, knees and sides, dryness of mouth, perspiration, noisy passage of flatus, and occasionally rectal prolapse. This subtype of vātaja diarrhea is called anugrathitha because the stools give the appearance of having been twisted by disturbed vāta.

PITTAJA[3]

If an individual with pittala constitution consumes food which is too sour, salty, hot or caustic, is overexposed to sun or hot winds, or is agitated by anger or hatred, pitta is perturbed and liquefied, and puts out the digestive fire. The hot, liquid pitta thereupon breaks down the feces in the large

bowel and gives rise to diarrhea. The patient would pass foul-smelling stools which may have varied colours such as yellow, green, blue, black or red. He would also have thirst, burning sensation, abdominal pain, fainting and painful swelling of the anus.

KAPHAJA[4]

When a person with a śleṣmala body gorges on heavy, sweet, cold or fatty food and idles himself day and night, kapha gets disturbed. By virtue of its heaviness, coldness and sliminess, kapha would dampen the digestive fire and, entering the large bowel, cause diarrhea. The stool in this instance would be greasy, white, heavy, foul smelling, mixed with mucus and small in quantity. The patient would complain of intermittent pain in the abdomen and anal region, discomfort in the hip and groin, fecal incontinence, goose-flesh, fatigue, nausea and tendency to sleep.

SANNIPĀTA[5]

All the three doṣas get perturbed in a person whose digestive fire is less than normal and whose food habits or lifestyle are given to excesses. Examples are highly irregular meals, eating food which is very cold, heavy, hot, greasy or incompatible, starvation, drinking too much wine or spoilt wine, sleeping too much or too little, overexposing oneself to fire, sun, wind and water, and succumbing to fits of grief, fear and anger. The three doṣas could also get disturbed against a background of debility due to wasting diseases. The disturbed doṣas blow out the faltering fire of digestion and trigger diarrhea which would be marked by the features of all the three disturbed doṣas. Moreover the combined disturbance affects constituents such as blood and influences the course of the disease. Some patients may not lose much strength or blood or flesh and may pass stools of varied colours such as yellow, green, blue, red or black; it may be formed or unformed, and may or may not be associated with pain. Such patients can be managed successfully but with difficulty.

Sannipāta diarrhea may take another, dangerous, course when the stool contains matter resembling blood clots, pieces of liver or fat, meat juice, curd, ghee, marrow, oil, muscle fat, clear water or collyrium. Equally ominous features include colours such as blue, red, black, green or mixed and smells such as putrid, cadaveric or that of raw fish. The patient would then deteriorate with fever, dizziness, hiccup, shortness of breath, and may develop excessive pain and sometimes no pain. He would have prolapse of the rectum with the appearance of pus on the protruding tissues, patulous anal opening, wasting of the body, pain in the bones and joints, restlessness and delirium with intermittent recovery of consciousness. Sannipāta diarrhea of this type is incurable.

PSYCHOSOMATIC[6]

There are two forms of diarrhea which have their source in the emotions of fear and anxiety. When powerful, both these sensations incite vāta quickly and act similarly to bring about diarrhea. The clinical features are therefore akin to those of vātaja diarrhea and the treatment is also similar except that psychological measures to cheer up and provide consolation must receive primary attention.

MANAGEMENT

VĀTAJA DIARRHEA [7]

When the diarrhea is marked by the passage of undigested food a physician should let nature take its

course and should not do anything to arrest the elimination of doṣas prematurely lest they should accumulate and produce worse disorders including abdominal distension, rigidity of the body, swelling, piles, fever and splenic enlargement. Indeed, natural elimination of doṣas should be facilitated by giving harītakī if necessary. When the ridding process is over, the patient would feel lighter with relief from diarrhea and return of appetite. If the diarrhea is moderate, drugs to improve appetite could be given; if mild, fasting alone would do. He should take water boiled with one of three combinations which are vacā and prativiṣa, mustā and parpaṭaka, or hṛbera and śuṇṭhī. The formulations to be given in moderate cases of diarrhea are given below:

Formulations	Actions
Pippalī, śuṇṭhī, dhānyaka etc., ending in vācā	Relieves vātaja diarrhea
Hṛbera, bhadramustā, bilva etc., ending in dhānyaka	Relieves vātaja diarrhea
Pṛṣniparṇī, gōkṣūra, lajjālu, kaṇṭakārī	Relieves vātaja diarrhea

When the patient feels hungry, light meals should be given including buttermilk, gruel, sweet drinks and wine. Gradually the diet should be advanced to soups, rice with meat soup and astringents. There are a number of plant products which relieve vāta and kapha, improve appetite and act as astringents. These include śālaparnī, pṛṣniparnī, bṛhatī and many others, which a good cook could employ as ingredients for a tasty meal. If a patient has largely recovered from diarrhea but continues to pass small quantities of mucus frequently with some pain, he should be given a soup of radish and badara or similar liquid preparations.[8] If the diarrhea takes on the form of dysentery, a preparation consisting of the paste of tender bilva fruits, sesamum, and the top layer of curd supplemented by sour additives and fat should be given. In the presence of severe pain and the presence of blood and mucus in stools, the patient should be given plenty of hot milk or milk boiled with castor root or tender fruit of bilva.

If vātaja diarrhea is profuse enough to cause dryness of the patient's mouth, the following preparations should be considered for administration.[9]

Preparations	Actions	Remarks
Barley, greengram, blackgram, śāli rice, sesamum	Relieves profuse diarrhea	Soup of cereals repared and given with kola, tender bilva fruits fried in oil and ghee, curd and pomegranate fruit
Top layer of curd	Relieves profuse diarrhea	Fried in ghee and oil: given with jaggery and śuṇṭhī
Gṛñjanaka	Relieves profuse diarrhea	Soup with sour fruit additives
Meat of fox/tortoise	Relieves profuse diarrhea	Soup soured with fruits
Meat of peacock, partridge etc.	Relieves profuse diarrhea	Soup with fat and sour fruit additives; taken with śāli rice
Trunk and blood of sheep	Relieves profuse diarrhea	Cooked separately with pomegranate and coriander, fat and śuṇṭhī. Meat eaten with śāli rice and blood separately

Rectal prolapse (gudabhramśa)[10]

A complication of vāṭaja diarrhea is rectal prolapse which may occur when the indigestion is controlled. It may be accompanied by pain. Some of the formulations used for its management are tabulated below:

Formulations	Actions	Remarks
Cāṅgēri, kola, dry ginger (cāṅgēri ghṛta)	Relieves pain and rectal prolapse	Cooked in ghee with sour curd and alkali
Cavya, pippalīmūla, trikaṭu etc., ending in citraka (cavyādi ghṛta)	Relieves pain and rectal prolapse	Cooked in soured ghee
Daśamūla and bilva fruits or śaṭi	Relieves pain and rectal prolapse	
or		
Śatavaha and bilva or vacā or citraka	Relieves pain and rectal prolapse	Both are used to prepare fatty enemas for resistance cases

If the prolapse has been in place for some time and has become firm it should be smeared with lubricant substances and fomented. When the tissue becomes soft it should be replaced with an introducer.

PITTAJA DIARRHEA

If the clinical picture suggests indigestion, the initial measures should be aimed at lightening such as fasting and improving the appetite. For thirst, water boiled with mustā, parpaṭaka and other plant products should be given.[11] Following lightening measures, he should be given gruel, sweet drinks etc., and the diet advanced gradually in accordance with his rate of progress, and decoctions of balā,

atibalā and other plants used as additives to the meal. Soup of greengram, lentils etc., or meat soup of quail and grey partridge would stimulate appetite and therefore should be given. A few other formulations and preparations are given below:

Formulations/ preparations	Actions	Remarks
Seeds and bark of kuṭaja, aviṣa	Relieves pittaja diarrhea	Ground together and consumed with honey and rice water.
Kirātatiktaka, mustā, kuṭaja and rasāñjana	Relieves pittaja diarrhea	Consumed with honey and water
Bilva fruit, dāruharidrā bark, hṛbera and durālabhā	Relieves pittaja diarrhea	Consumed with honey and water
Candana, mṛṇāla, śuṇṭhī, lodhra, and utpala	Relieves pittaja diarrhea	Consumed with honey and water
Sesamum seeds, mocarasa, lodhra, lajjālu, lotus and water lily	Relieves pittaja diarrhea	Consumed with honey and water
Water lily, dhātaki flowers, pomegranate fruit rind, śuṇṭhī	Relieves pittaja diarrhea	Consumed with honey and water
Kaṭphala, śuṇṭhī, pāṭhā, jambū seeds, mango fruit, durālabhā	Relieves pittaja diarrhea	Consumed with honey and water

When the patient's digestion and clinical status improve he should be given a diet of old śāli rice and meat soup with astringent additives. As his appetite and digestion improve, goat's milk would be beneficial. If fecal accumulation is suspected and evacuative therapy needed, a decoction of palāśa seeds or trāyamāna mixed with milk and a follow-up drink of warm milk may be effective. In case the patient has recurrence of pain when his diet is being advanced, a fatty enema of ghee and oil with medications should be given.[12]

There are recalcitrant cases where diarrhea persists in spite of the dietetic regimen and fatty enemas. For these patients picchābasti or a mucilaginous enema would be advisable. To prepare the enema, fresh flower stalks of śālmalī should be covered with fresh kuśa grass and encased in a sheath of black earth. This should be heated over a mild fire of cow dung until the earthen casing is dried. The casing is then broken and the śālmalī stalks retrieved, ground and mixed in boiled milk and filtered. The solution is further mixed with tila oil and ghee and madhuka paste. This fluid is administered as an enema after the patient has been massaged. Following the return of the enema fluid and bath, the patient should take a meal consisting of milk or soup of wild meat. The enema is efficacious in treating pittaja diarrhea in the advanced stage and other disorders such as swelling and abdominal lumps.[13]

Management of untreated cases[14]

When patients with pittaja diarrhea fail to undergo appropriate treatment and insist on taking pitta disturbing articles, the disease worsens quickly and spreads to blood which appears in the stools. The patients also develop other severe symptoms such as pain and inflammation of the rectum and anus. The treatment of such patients consists of several dietary measures which are listed below:

- Boiled milk of goat with honey and sugar to be used in food, drink and for anorectal irrigation.
- Diet of boiled, red sali rice with goat's milk or soup of bird meat and fried ghee.
- Blood of deer or goat fried in ghee or soup of kāśmarya fruit mixed with sugar.
- Nīlotpala, mocarasa, lajjālu and lotus stamens with goat's milk.
- Paste of śatāvarī or ghee cooked with milk for giving a milk diet.
- Top layer of gruel and kuṭaja seeds cooked in ghee.

The formulations which are effective for treating the patients are as follows:

Formulations	Actions	Remarks
Bark of dāruharidrā, kuṭaja seeds, pippalī etc., ending in kaṭurohiṇī	Subdues severe diarrhea	Ghee cooked with the drugs and top layer of gruel
Black earth, madhūka, conch, blood, rice water	Stops bleeding	Consumed with honey
Priyaṅgū	Stops bleeding	Paste taken with honey followed by rice water and wild meat soup
Paste of black sesamum	Stops bleeding	Mixed with sugar and goat's milk

When the anal orifice is inflamed, a cold decoction of paṭola and madhuka, sugarcane juice, ghee or other appropriate fluids should be used to irrigate the area or a paste or powder of the same composition smeared over it.[15] This may control the bleeding and inflammation and bring relief to the patient. If the bleeding persists, the anal region, groin, hips and thighs should be painted with ghee and the medications applied thereafter. Applying candanādya oil and washing with ghee a hundred times would also help in arresting the bleeding. If the bleeding is scanty but is accompanied by pain and constipation, mucilaginous enema should be given. When the diarrhea persists for long, the anus may become patulous and call for the application of fatty formulations topically.

For persistent bleeding which may occur in both directions of the gut, other formulations are also recommended; these must be consulted.[16]

KAPHAJA DIARRHEA [17]

The initial measures should make the patient feel lighter and improve his appetite and digestion. The policy adopted in treating diarrhea with undigested food may also be appropriate here at this stage. If the response is unsatisfactory medical formulations to pacify kapha disturbance would be necessary. A list of such formulations is as follows:

Formulations	Actions	Remarks
Dried bilva leaves, mustā, harītakī, śuṇṭhī	Promotes digestive fire and controls kaphaja diarrhea	Decoction prepared and used
Vacā, viḍaṅga, bhūtika, dhānyaka, devadāru	Promotes digestive fire and controls kaphaja diarrhea	Decoction prepared and used
Kuṣṭha, ativiṣa, pāṭhā, cavya, kaṭurohiṇī	Promotes digestive fire and controls kaphaja diarrhea	Decoction prepared and used
Pippalī, pippalīmūla, citraka, gajapippalī	Promotes digestive fire and controls kaphaja diarrhea	Decoction prepared and used
Asita, jīraka, pāṭhā, śuṇṭhī, marica	Promotes digestive fire and controls kaphaja diarrhea	All in same quantity with dhātaki dissolved in mātuluṅga juice
Rasāñjana, ativiṣa, kuṭaja seeds	Promotes digestive fire and controls kaphaja diarrhea	One part of each and dhātaki given with honey and śuṇṭhī
Dhātaki, śuṇṭhī, bilva, lodhra, kamala kesara	Relieves kaphaja diarrhea	Prepared with cāṅgēri, kola, buttermilk, salt and fat
Jambū bark, śuṇṭhī, dhānyaka etc., ending in balā	Relieves kaphaja diarrhea	Prepared with cāṅgēri, kola, buttermilk, salt and fat
Lajjālu, dhātaki, bilva pulp etc., ending in āmra	Relieves kaphaja diarrhea	Prepared with cāṅgēri, kola, buttermilk, salt and fat
Kapittha, viḍaṅga, śuṇṭhī, marica	Relieves kaphaja diarrhea	Prepared with cāṅgēri, kola, buttermilk, salt and fat

There are several other formulations available for addressing specific symptoms such as pain and obstruction to the passage of flatus, and their usage in appropriate situations should be decided by the physician, if vāta and kapha are obstructed or diarrhea is profuse, mucilaginous enema should be considered with certain changes in the medications.[18]

54 *Vomiting (Chardi)*

Vomiting is caused by the disturbance of the three doṣas singly, jointly or by the exposure to revolting sights. It is preceded by nausea, profuse salivation and loss of appetite.

VĀTAJA[1]

Vāta in the gut is perturbed when a person who is physically weak undertakes excessive activity or keeps a fast. The perturbation is also caused by illnesses, taking irritant medications or emotional disturbance due to fear and grief. The perturbed vāta reverses/ course and moves upwards to produce vomiting, due to the turmoil in the stomach, and at the same time, gives rise to discomfort in the heart region by exerting pressure. The patient would complain of dryness in the mouth, pain in the head and abdomen, cough, and hoarseness of voice. The eructation is noisy, and vomiting associated with explosive force even though the vomit would be scanty, thin, frothy and containing black specks.

PITTAJA[2]

Pitta is perturbed when a person eats during indigestion and, in particular, when the food is pungent, sour and hot. The perturbed pitta percolates through rasa channels upwards and accounts for vomiting and pressure on the heart. The patient would have other clinical features such as thirst, dryness and burning sensation in the mouth, dizziness and a feeling of darkness and 'passing out'. The vomit is green or yellow, hot, bitter and contains smoke-coloured material.

KAPHAJA[3]

Eating food which is very heavy, greasy or uncooked, too much sleep, and similar habits upset kapha which pervades the chest, head, heart and rasa channels and cause vomiting. In this condition, the patient would complain of drowsiness, excessive salivation, sweet taste in the mouth, goose-flesh and loss of appetite. The vomit would contain fatty, viscous, white and sweet material.

SANNIPĀTA[4]

Voracious and constant eating, indigestion and abnormal turn of seasons are likely to disturb all three doṣas together and cause serious vomiting. A severe type of sannipāta vomiting occurs when the disturbed doṣas -vāta in particular - blocks the channels for feces, urine, sweat and water and drives the accumulated material upwards and brings out vomit which resembles fecal material and urine. Accompanied by thirst, hiccup and severe distress, this form of vomiting is fatal.

PSYCHOSOMATIC (DVIṢṬĀRTHAYOGA)[5]

This is the kind of vomiting which occurs when one's senses are exposed to things which are repulsive and loathsome.

Vomiting without complications is curable. When the vomit, however, contains pus, blood and congealed black blood which reflects light and shines like the moon, the condition is not amenable to treatment.

MANAGEMENT

VĀTAJA

As vomiting of any kind is a result of turbulence in the stomach the approach for treatment consists of lightening measures including fasting which is applicable except in the vātaja type of vomiting. The other form of treatment is the application of evacuative measures to rid the system of disturbed pitta and kapha. For evacuation, the powder of harītakī with honey or other suitable purgatives should be given to redirect the course of perturbed doṣas downwards; alternatively, emesis should be induced with appropriate plant products such as vallīphala. Following evacuation the patient should receive agreeable and light food and drink. If there is discomfort in relation to the heart, a vātaja patient should also be given ghee with rock salt, or ghee cooked with dhānyaka, śuṇṭhī, curd and pomegranate juice. His diet should be moderately fatty and to his liking.[6]

PITTAJA[7]

A laxative is in order and a good candidate is trivṛt with the juice of drākṣa, vidārī or sugarcane. If the stomach is full with perturbed pitta, emesis with sweet drugs should also be administered. When the evacuation is over, the patient should be given a light diet of gruel of roasted paddy with honey and sugar, śāli rice with greengram soup or soup of wild meat according to taste. Other formulations which are useful are indicated below:

Formulations	Actions	Remarks
Parched paddy, barley, kharjūra fruit pulp, coconut, grapes, jujube fruits	Relieves pittaja vomiting	Grains fried and mixed with boiled barley and other ingredients; sugar candy, honey and pippalī added
Galena, parched paddy, water lily, jujube fruit pulp	Relieves pittaja vomiting	Galena powdered and consumed with other ingredients and honey
Harītakī	Relieves pittaja vomiting	Consumed with honey
Seed pulp of jujube, galena, beeswax, parched paddy, grains of pippalī	Relieves pittaja vomiting	Consumed with or without sugar
Grape juice, decoction of tender leaves of jambū and āmra	Relieves pittaja vomiting	Juice and decoctions chilled with honey
Water, greengram, pippalī	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Water with uśīra and dhānyaka	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Water with Bengal gram	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Water with gavēdhuka root	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Water with guḍūcī	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Sugarcane juice	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Milk	Relieves pittaja vomiting	Kept overnight and consumed as a drink
Svarṇagairika, bāḷaka	Relieves vomiting and thirst	Consumed followed by boiled rice water, and juice of sandal and āmalaka with honey
Candana, cavya, māmsī etc., ending in gairika		Paste consumed with cold water

KAPHAJA [8]

Initially the patient should be subjected to emesis with preparations such as a decoction of pippalī, sarṣapa and nimba. Thereafter a diet based on old wheat, śāli rice and barley, soup of paṭola, nimba cooked with buttermilk, soured with fruits and mixed with pungent seasoning is advisable for these patients. The formulations recommended for use are tabulated below:

Formulations	Actions	Remarks
Greengram, lentils, Bengalgram, peas	Relieves kaphaja vomiting	Fried and powdered; consumed as powder with ginger and honey
Triphalā, viḍaṅga	Relieves kaphaja vomiting	Fried and powdered; consumed as powder
Durālabhā, honey	Relieves kaphaja vomiting	Mixed and consumed as linctus
Realgar, bījapūraka	Relieves severe vomiting	Juice of bījapūraka used
Pippalī, kapittha	Relieves severe vomiting	Juice of kapittha used
Marica, honey	Relieves severe vomiting	

SANNIPĀTA [9]

The formulations and procedures outlined above should be appropriately combined for application in sannipāta vomiting. The physician should exercise great care in this situation to assess the disturbance of doṣas, patient's strength and the level of his digestive fire.

PSYCHOSOMATIC[10] (DVIṢṬĀRTHAYOGA)

When the cause of vomiting is emotional, the physician's approach should be marked by pleasant and comforting words, cheerfulness, storytelling and encouraging company of friends and lovers. Exposure to the patient's favourite colours, smells and tastes should be provided even if some of the objects may be unwholesome.

When the vomiting has been of long duration, it would result in the depletion of dhātus. The treatment would then necessitate measures for building up by giving preparations such as sarpirguḍa, tṛyūṣaṇā and jīvanīya; and meat soups which promote virility and cyavanaprāśa.

55 *Cellulitis (Visarpa)*

OVERVIEW

Like a snake's poison, cellulitis strikes suddenly and spreads quickly throughout the body. In the absence of prompt and efficient management it is fatal. It has seven types according to the perturbation of doṣas. These are vātaja, pittaja, kaphaja, sannipāta, āgñeya (vāta and pitta), granthi (kapha and vāta) and kardama (pitta and kapha). Cellulitis has seven targets (body constituents). These are blood, lymph (lasīka), skin, muscle, vāta, pitta and kapha (the last three are mala dhātus).[1]

Targets

Cellulitis occurs when blood, lymph, muscle and skin are attacked by perturbed vāta in an individual who has undesirable food habits. The vāta is perturbed by offensive and incompatible food articles and drinks, excessive eating, sleeping during the day, exposure of wounds due to the displacement of dressings and the damaging effect of sun, fire and polluted air.[2] In addition to the classification into seven types, cellulitis may also be classified as external, internal or both, on the basis of the location and spread of the perturbed doṣas. The gravity of the illness increases progressively from the external; the external type is curable whereas the internal variety is cured with difficulty. When the condition involves the exterior as well as the interior, it is no longer amenable to cure. The external type is recognisable by obvious clinical features; the internal manifestation of cellulitis is, however, noted from indirect signs and symptoms such as malfunction of the heart, fainting, pressure on vessels, severe thirst, increase in natural urges and loss of appetite. When all the features are present, especially the involvement of the heart, the disease is not curable.[3]

CLINICAL FEATURES[4]

VĀTAJA

The picture is marked by dizziness, thirst, local pain, bodyache and cramps, fever with rigor, cough, pain in the joints, suffusion and watering of eyes, aversion to food and the feeling of ants crawling over the body. The diseased part is swollen, reddish or blackish and severely painful. As the disease advances, small, red or black blisters appear which, when ruptured, release a thin, clear and reddish discharge in small quantities. The patient does not pass urine, feces or flatus and responds only to vāta-relieving measures.

PITTAJA

Here the perturbed pitta affects the constituents (listed above) by filling the vessels and spreading

quickly. The clinical features include fainting, fever, loss of appetite and vomiting, sweating, bodyache, delirium, congestion or greenish or yellowish discolouration of the eyes with similar colour in the urine and feces, keen preference for cool water and air, and seeing things as greenish or yellowish. The affected part of the body shows varied colours and gives rise to severe, burning pain which may also be tearing in character. As the disease spreads, pus appears with a colour similar to what the diseased part shows. Pitta-alleviating measures provide relief.

KAPHAJA

The perturbed doṣa spreads through the dhātus slowly and makes the patient feel cold, heavy, drowsy and weak. Other symptoms are loss of appetite, sweet taste and mucinous feeling in the mouth and vomiting. The site of the disease is marked by swelling which may be pale or congested, associated with little pain, numb on touch and heavy. The swelling is followed by eruptions which do not lead to pus formation quickly. White or pale in colour, they spread over the skin and are present for a long time before rupturing and releasing a thick, greasy and viscous fluid. The site of rupture turns into large, chronic ulcers with a membranous base, which breaks in one place while healing in another. The patient's eyes, nails, face, skin, urine and stool appear pale. He would respond to kapha-relieving treatment.

ĀGÑEYA

This type of cellulitis spreads rapidly and occurs when disturbed vāta and pitta jointly inflame the dhātus and, in that process, reinforce each other.

The patient feels as if his body is on fire. He suffers from diarrhea, fainting, fever, loss of appetite, bone and joint pains, confusion and severe bodyache. The diseased area resembles burnt charcoal with black and red patches and eruptions. The disturbed doṣas - vāta in particular - may soon affect the heart and cause hiccup, shortness of breath, restlessness and coma from which arousal is difficult. The patient seldom recovers from this condition.

GRANTHI

Here kapha and vāta are perturbed due to unsuitable food and drinks, substances that block channels, lack of physical activity and improper habits of evacuation. The disturbed vāta breaks down kapha in its pathway and scatters it, giving rise to a chain of enlarged glands which seldom form pus, and find their main location in the stomach. When blood is perturbed, the disturbed doṣas give rise to a chain of painful glands which would be large or small, round and red, and located in the blood vessels, ligaments, muscle and skin. The patient develops fever, cough, hiccup, shortness of breath, diarrhea, confusion, loss of appetite and indigestion, vomiting, severe bodyache, restlessness and fainting. When a patient has the full clinical picture with all these features he is beyond the hope of recovery or successful treatment.

KARDAMA

When kapha and pitta are jointly perturbed to a high degree and find a common focus, the entire body is affected as shown by sweating. Fever with chills, heaviness in the head and confusion, delirium, loss of appetite and indigestion, bone pains, sensory dysfunction, restlessness and congestion of body channels are some of the prominent clinical features of kardama which often localises in the

abdomen. The affected part of the body shows numerous painful eruptions of varied colours, including black. The area would be swollen, hot, moist with pus in the depth but with no discharge. As the muscle and skin rot, pain decreases on touch. In the final stage, the part ruptures, releases a large quantity of dead and putriefied flesh, and exposes even deeply placed vessels and ligaments. A cadaveric smell pervades the site and the patient soon loses consciousness with no hope of cure.

SANNIPĀTA

This type has a disastrous outcome as its cause and clinical features are derived from all the disturbed doṣas. It progresses rapidly and engulfs all the constituents.

Upadrava is also defined as a disease, but it is an episode or complication which is rooted in the main disease. Minor or major, it may appear in the later stages of the disease and settles when the main disease is controlled. Its appearance does, however, aggravate the illness and heighten the patient's misery.

The clinical course and outcome in the seven types of cellulitis vary. While those caused by vāta, pitta and kapha are curable, the āgneya and kardama varieties can be managed reasonably well provided that the care is flawless and the disease has not affected the heart, blood vessles and flesh. Granthi visarpa is also manageable in the absence of complications. The sannipāta type is invariably fatal.

MANAGEMENT[5]

GENERAL

In general, lightening measures, emesis, and the use of bitter and rough drugs should be administered when the clinical picture is dominated by indigestion and the retention of disturbed doṣas in the stomach. If the location of the disease is primarily the abode of pitta (pittasthāna), purgation and bloodletting would be effective. If there is evidence that blood has been affected, lubricant therapy should be withheld in the beginning. When the doṣa accumulation is copious, ghṛtas should not be given lest they should further inhibit elimination which would have been slowed down by rotten skin, flesh and blood.

DIET [6]

After the initial measures for lightening, the patients should be given a diet of wholesome items which include sweet or slightly sour pomegranate, āmalakī and special drinks with honey and sugar. The drinks should be made by boiling parūṣaka, mṛdvīka and kharjūra in water. Old śāli rice with soups of greengram, lentil or Bengal gram, soups of wild meat without fat and seasoned with parūṣaka, drākṣa, dāḍima and āmalakī, barley and wheat are also suitable. The list of foods and activities to be avoided are hot, burning and incompatible food, sleep during the day, physical activity, exposure to sun, wind and fire, and fits of anger.

Formulations[7]

Formulations	Actions	Remarks
Seeds of madana, madhuka, nimba, kuṭaja	Emetic	For kapha, pitta visarpa
Paṭola, nimba, pippalī etc., ending in indrayava	Emetic	For kapha, pitta visarpa
Mustā, nimba, Paṭola	Overcomes cellulitis	Used as decoction
Candana, utpala	Overcomes cellulitis	Used as decoction
Sārivā, āmalakī, uśīra, mustā	Overcomes cellulitis	Used as decoction
Kirātatikta, lodhra, candana etc., ending in nāgakesara	Overcomes cellulitis	Used as decoction
Prapauṇḍarīka, madhuka, padmakeśara etc., ending in lodhra	Overcomes cellulitis	Used as decoction
Drākṣa, parpaṭaka, śuṇṭhī etc., ending in dhanvayāsa	Overcomes cellulitis	Water stored with herbs and used for drinking
Paṭola, nimba, dāruharidrā etc., ending in trāyamāṇa	Overcomes cellulitis	Water stored with herbs and used for drinking
Mahātikta ghṛta	Overcomes cellulitis	Also effective in pittaja kuṣṭha
Trāyamāna ghṛta	Overcomes cellulitis	Also effective in abdominal lumps
Trivṛt	For purgation in visarpa	Powder dissolved in ghee or milk or hot water

The above measures are especially beneficial when the perturbed doṣas accumulate in the gut. If blood is affected, bloodletting would be necessary and should be carried out with horn, leeches and pumpkins for removing blood perturbed by vāta, pitta and kapha, respectively. If this is not done, the polluted blood will destroy the skin, flesh and ligaments.[8]

External applications listed below are appropriate when the disease has spared the interior of the body and the morbid changes in the diseased part are mild.[9]

Formulations	Actions	Remarks
Bark of udumbara, madhuka, padmakesara etc., ending in priyaṅgu	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as paste
Tender shoots of vaṭā, root of kadalī stem, lotus root	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee, washed hundred times and used as a paste
Kālīya, madhuka, nāgakesara etc., ending in priyaṅgu	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Duṛvā, mṛṇāla, śankha etc., ending in rice grains	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Sārivā, padmakesara, uśīra etc., ending in harītakī	Relieves the external type of cellulitis due to vāta and pitta	Mixed and applied as a paste
Nalada, hareṇu, lodhra etc., ending in sarjarasa	Relieves the external type of cellulitis due to vāta and pitta	Mixed and applied as a paste
Flour of roasted barley, ghee	Relieves the external type of cellulitis due to vāta and pitta	Mixed and applied as a paste

Peas, lentils, greengram, white rice	Relieves the external type of cellulitis due to vāta and pitta	Used singly or jointly with ghee as paste
Mud sticking to lotus root, powdered pearl, conch, etc., ending in ochre	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Prapauṇḍarīka, madhuka, balā etc., ending in dugdhikā	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Lotus root and stalk, kaśeruka	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Roots of śatāvarī and vidārī	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Śaivāla, nala roots, gojihvā etc., ending in indrāṇi śāka	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Śirīṣa bark, balā	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and used as a paste
Tender leaves of vaṭā, udumbara, plakṣa etc., ending in aśvattha	Relieves the external type of cellulitis due to vāta and pitta	Mixed with ghee and made into a cold paste
Triphalā, padmaka, uśīra etc., ending in anantā	Relieves kaphaja cellulitis	Mixed with ghee and made into a paste
Khadira, saptaparṇa, mustā etc., ending in devadāru	Relieves kaphaja cellulitis	Mixed with ghee and made into a paste
Āragvadha leaves, śleṣmātaka bark, indrāṇi śaka etc., ending in balā		Singly or jointly as a paste

Top layer of cold ghee, milk, madhuka	Beneficial for cellulitis with perturbation of vāta, blood and pitta	Site washed with plain ghee hundred times and sprinkled with the preparation
Durvā	Promotes healing of ulcers	Juice cooked with ghee
Paṭola, nimba, triphalā etc., ending in utpala	Promotes healing of ulcers	Used as powder, lotion, paste or ghṛta

The application of the pastes provides relief and comfort provided it is done with due care.[10] Fresh paste should be applied frequently after removing the previous layer but without washing the site except in kaphaja type where washing is necessary. The thickness of the layer should be a third of the length of the thumb, and the paste should not be too thick or too thin. Once applied, the paste should

not be reused. It should not be painted and bandaged lest eruptions and itching should occur underneath the bandage. If the layer is very thick it does not stick to the skin; if it is very thin it dries up and balloons with no contact with the skin.

SPECIFIC TREATMENT [11]

In the āgñeya type, the treatment should seek to pacify vāta and pitta while the kardama type would require measures to settle kapha and pitta. The granthi type which is marked by the involvement of blood calls for a combination of procedures for lightening, roughening, application of pastes, evacuation and bloodletting. Severe pain may be dealt with by the application of hot and lubricant poultices, the sprinkling of medicated oils and painting with special pastes as exemplified below:

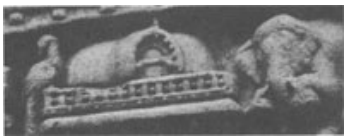
Formulations	Actions	Remarks
Balā, nāgabala, harītakī etc., ending in agnimanthā	Efficacious in granthi visarpa	Applied as a paste
Dantī, wax of śuṇṭhi, arka etc., ending in kāsīsa	Breaks down hard, glandular swellings caused by kapha in body passages externally	Applied as a paste
Radish, horsegram,	Breaks down yavakṣāra, dāḍima wellings	Consumed as soup chronic, nodular
Triphalā with pippalī and honey	Breaks down chronic, nodular swellings	Consumed as soup
Mustāsaktu	Breaks down chronic, nodular swellings	
Bhallātaka saktu	Breaks down chronic, nodular swellings	
Devadāru and guḍūcī	Breaks down chronic, nodular swellings	
Śilājatu	Breaks down chronic, nodular swellings	
Svarṇamākṣika	Breaks down chronic, nodular swellings	
Kampillaka, viḍaṅga, dāruharidrā, karañja fruit	Useful in treating granthi	Ground and used for cooking with oil

If the application of pastes fails to break down the hard, nodular swellings, pressure may be applied over them with iron, salt, stone, gold and copper. If the stony hard swelling defies these measures, it should be cauterised with alkali or a sharp instrument of iron or gold. When it liquefies as pus following medicated applications the physician should incise the swelling and remove the mass. At the same time, bloodletting should be performed and appropriate medications given to pacify the disturbed doṣas. Smoking, nasal drainage, fomentation and liquefaction of the mass also have a role

in managing difficult cases of granthi visarpa.

The measures mentioned for treating granthi visarpa may also have application in the management of kaphaja swelling of the neck (galagaṇḍa).

As cellulitis does not occur without affecting blood, general measures in treatment are essential. Among them, bloodletting matches all the other measures put together. The physician should exercise wisdom in putting together the appropriate combination of treatment for individual patients.



56 *Thirst (Tṛṣṇā)*

The body is derived from chyle which, in turn, is a product of water. Naturally the depletion of chyle gives rise to thirst which leads to the replenishment of water.

Emotions such as fear, anger, and sorrow, excessive use of lightening measures or emesis or wine, salty, hot, rough and dry diet, and exposure to the hot sun dry up soft tissues, channels for rasa, blood vessels at the root of the tongue, palate, and the lung. This provokes thirst which increases when the water that is drunk is quickly mopped up by the disturbed doṣas. Often it complicates wasting diseases. The signs and symptoms of thirst are dryness of the mouth, lips, palate and tongue, hoarse voice, lack of concentration, loss of appetite, deafness, discomfort in the heart region and tiredness.[1]

CLINICAL FEATURES

Thirst has several clinical features.[2] Thirst of vātaja type is accompanied by insomnia, dizziness, dryness and bad taste in the mouth and blocked body channels. In pittaja thirst, a burning sensation of the body, bitter taste, yellow discolouration in the eyes, urine and stools and desire for cold things would be prominent features. The thirst associated with poor digestion resembles pittaja but is also accompanied by abdominal distension and salivation.

The thirst which complicates fever, polyuria (diabetes) and wasting diseases aggravates the illness. All types of thirst indicate a poor outcome if it continues unabated for long in an already wasted patient.

Regardless of the varied nature of causative factors including wine, thirst is always an immediate result of disturbed pitta and vāta and is relieved by drinking cold water. A person tired after long exposure to heat should not drink or be exposed to cold water suddenly lest the heat should accumulate in the belly and aggravate the thirst.

MANAGEMENT[3]

GENERAL

Severe thirst from loss of water dehydrates the patient and ends his life quickly. Rainwater or any other water fit to drink should then be consumed with honey. Thin, light, cold, sweet-smelling and sweet-tasting water which leaves an astringent taste in the mouth is suitable for drinking. Massage with ghee purified a hundred times followed by a bath in cold water and a drink of milk or vegetable soup is beneficial. The preparations and procedures for the general management of thirst are given below:

Preparations	Actions	Remarks
Pancamūla	Relieves thirst	Water boiled with it; sugar candy and seasoning added; consumed with roasted paddy flour, sugar and honey
Barley grains	Relieves thirst	Tender barley grains made into cakes; consumed cold with honey and sugar
Tṛṇapancamūla, munjātaka, priyāla	Relieves thirst	Processed and consumed with meat soup or milk; sugar and honey added
Milk boiled with sweet, jīvanīya group	Relieves thirst	Consumed with honey and sugar
Ghee from the above preparation	Relieves thirst	Also to be used for massage or nasal application for dryness
Milk, sugarcane juice, jaggery dissolved in water, sugar candy, honey, juice of mṛdvīka etc.	Clears dryness of palate	Used for gargle
Jambu, āmrātaka, badari etc., ending in pancamūla	Relieves thirst, giddiness	Made into a paste and with ghee and applied over front of chest, head and face
Dāḍima, dadhittha, lōdhra etc., ending in bījapūraka	Relieves thirst, giddiness	Mixed with ghee sour gruel; applied over the head
Śaivāla, mud, lotus flowers, roasted grain flour	Relieves thirst, giddiness	Processed with ghee and souring agents for application on the head

Buttermilk, wet cloth, lotus garlands, embrace of attractive women in silk or wet clothes, cold breeze, moonlight - anything that soothes and cools is welcome in the management of thirst.

VĀTAJA[4]

Food and drinks should be chosen to pacify vāta; they should be cold, light and soft. The articles prescribed for kṣayaja cough, and water boiled with jīvanīya herbs would also be suitable.

PITTAJA

Thirst should be quenched with water taken with drāksa, sandal and other cooling ingredients. Some other preparations are given below:

Preparations	Actions	Remarks
Śāli rice, kharjūra, parūṣaka etc., ending in drākṣa	Relieves pittaja thirst	Preserved in water; consumed with honey
Red śāli rice, lōdhra, madhuka etc., ending in utpala	Relieves pittaja thirst	Ground and preserved in water in an earthen jar; cool water taken for drinking
Tender leaves of vaṭā, mātuluṅga, vetasa etc., ending in madhuyaṣṭī	Relieves pittaja thirst	Black earth or sand heated red-hot and dropped in cold water; the medications added and clear water taken for drinking

ĀMA TṚṢṆĀ AND KAPHAJA TṚṢṆĀ

The treatment is similar. The kaphaja type is recognised by the presence of such features as numbness, loss of appetite and vomiting, indigestion and malaise. Some of the preparations used in the treatment of these conditions are given below:

Preparations	Actions	Remarks
Trikaṭu, vacā, bhallātaka	Relieves āma tṛṣṇā	-
Curd, honey, sweet drinks, salty hot water	Efficacious in kaphaja thirst	Given to induce vomiting
Dāḍima, sour fruits, haridrā	Efficacious in kaphaja thirst	Consumed with sugar
Alcoholic drink	Beneficial for thirst in alcoholics	Diluted half with water; sour, salty or sweet-smelling additives, or wine or jaggery drink added
Milk	Relieves thirst quickly in weak persons	Works through its property of roughness
Jaggery drink	Relieves thirst which follows the ingestion of fatty food	

When the thirst is severe and is associated with giddiness, prostration and signs of poisoning, plenty of water should be given; in the sannipāta type of thirst, water cooled after boiling is advisable. If there are symptoms such as hiccup, shortness of breath, fever and evidence of the perturbation of kapha and pitta, bowel evacuation should be followed sequentially by the administration of lubricants and hot water for drinking.

Drinking of water is not necessarily a sound practice in diseases such as those of pallor, heat exhaustion, polyuria, abdominal lumps, diarrhea and the enlargement of spleen, but if the patient is in distress small quantities may be given. It may happen that patients suffering from advanced wasting diseases suffer from severe thirst and are on the verge of death. For them water boiled with coriander and mixed with sugar and honey would be appropriate.[5]

[57] *Poisoning (Viṣa)*

Poison has a noted pedigree. It emerged from the churning of the ocean in ancient times, ahead of nectar to scare the living world.

TYPES

It exists in two forms, fixed and mobile. The fixed type exists in the roots of plants such as mustaka, pauṣkara, krauncha and balāhaka. The mobile form is seen among creatures with fangs, such as snakes, insects, rats, scorpions *etc*. The poison from animal sources causes drowsiness, tiredness, thirst, inflammation, goose-flesh, swelling and diarrhea. The vegetable poison, on the other hand, gives rise to fever, hiccup, sensitivity of teeth, salivation, tight feeling in the throat, nausea and vomiting, shortness of breath and fainting. As animal and plant poisons are located in the lower and upper parts of the body, respectively, they tend to neutralise each other. There are substances called gara which are toxic but are, in reality, prepared artificially by a combination of poisonous and non-poisonous things which produce delayed effects without killing the patient.[1]

QUALITIES

Poisons have ten qualities. They are lightness, roughness, rapid action, non-slipperiness, quick absorption, intensity, prostration, subtleness, heat and uncertain taste. These qualities determine the actions of poisons. Roughness, heat and subtleness perturb vāta, pitta and blood, indefinite taste disturbs kapha and rasa (chyle), quick absorption and action ensure rapid action and generalised spread, sharpness undermines vital organs and prostration interferes with the breath of life, lightness makes it hard to manage, and non-slipperiness loosens its attachment to doṣas while, at the same time, upsetting them.[2]

CLINICAL COURSE

The clinical course of poisoning has eight sequential stages. They are mentioned below:

First (derangement of chyle)	Thirst, hallucination, sensitiveness of teeth salivation, vomiting and fatigue
Second (derangement of blood)	Tremors, dizziness, yawning, fainting, itching, seeing darkness and change in colour

Third (derangement of muscle)	Itching, swelling, eruptions and rounded patches on the body
Fourth (derangment of doṣa)	Burning sensation, vomiting, bodyache, fainting
Fifth	Seeing darkness; things appearing blue
Sixth	Hiccup
Seventh	Drooping of shoulder
Eighth	Death

In animals and birds the manifestations are limited to four and three stages, respectively.[3] Dogs, for example suffer from salivation, drooping of head and other symptoms due to the vitiation of doṣas by poisoning. Other fierce quadrupeds are also susceptible to poisoning and indicate the perturbation of kapha and vāta by such features as fever, body stiffness, thirst and loss of consciousness.[4]

CLINICAL FEATURES

GENERAL

The constitution of an individual shapes the clinical manifestations of poisoning.[5] In a vātala person, the dominant symptoms are thirst, hallucination, restlessness, constriction of throat, fainting, vomiting and so on; the disturbance of pitta and kapha is less obvious. A pittala person would have thirst, fever, burning sensation, vomiting and diarrhea and seeing darkness, with lesser perturbation of vāta and kapha. In a śleṣmala individual, shortness of breath, constriction in the throat, salivation, vomiting, itching etc., would be present, with fewer symptoms of disturbed vāta and pitta. When the poison remains subdued in the body it presents as blood disorders in the form of eruptions and boils. The ultimate result of poisoning is death due to the perturbation of all the three doṣas and the blocking of channels. While ingested poison reaches the heart, those transmitted through bites tend to remain localised. The general signs and symptoms of poisoning include blue discolouration of lips and teeth, severe fatigue, falling of hair, loss of movement and abnormal position of limbs. The signs of death are absence of response to sudden cold by goose-flesh, no bruise on blunt injury and no bleeding on the break of skin.

When poisons affect the three doṣas, distinctive signs are apparent. In the vātaja type, the patient has pain in the heart region and upward movement of air (indicated by the presence of eructation, yawning etc.), congestion, body stiffness, bone and joint pain, giddiness, and duskiness of the skin. In pittaja poisoning, the features include heartburn, hot breath, pungent taste in the mouth, reddish or yellowish swelling of the site, feeling of muscles being torn apart and loss of consciousness. In the kaphaja type, the patient has nausea and vomiting, salivation, excitement, feeling of coldness and heaviness and sweetness in the mouth.[6]

SNAKES AND SNAKE BITE[7]

There are three kinds of poisonous snakes - hooded (darvīkara), coiled (maṇḍali) and striped (rājimān). Their poisons vary in quality. The poison of the hooded is rough and pungent; of the coiled, sour and hot; and of the striped, sweet and cold. The hooded snake's bite leaves tiny, congested or blackish marks with the site resembling a tortoise shell and giving rise to the features of disturbed vāta. The bite of maṇḍali has large marks and is accompanied by swelling which is yellowish or red with pittaja symptoms. The rājimān bite shows as a firm and pale swelling, which exudes an oily or viscous discharge of blood stained fluid with signs of kapha disturbance. The clinical features of bites by male, female, sterile, pregnant, freshly delivered and crossbred snakes differ and can be distinguished by careful observation. Young and black snakes, old gonasa snakes and rājimān snakes in middle age are especially poisonous. The snakes have four fangs, two each in the upper and lower jaws; the fangs differ in colour.

There are minute creatures which grow in the excreta of snakes and carry two kinds of poison known as duṣiviṣa and prā ṇahara. The bite of creatures which produces duṣīviṣa, gives rise to local discolouration, boils, itching and burning. The local inflammatory changes spread and lead to the death of tissues. When the other type releases prānahara poison, the swelling manifests itself like a snake-bitten spot with exudation of blood, and the patient develops drooping eyelids, fainting, pain, shortness of breath and thirst. Duṣiviṣa exists in the body for long, giving rise to ailments until it is eliminated or cured by some particular antidote.

BITES BY SPIDERS AND OTHER CREATURES[8]

Spider bite

The centre of the spot is inflamed and covered with a blackish membrane. It is swollen and associated with exudation and fever. The other features which may be present include boils, severe shortness of breath, burning sensation, hiccup and rigidity of the head.

Rat bite

The site shows eruptions which are accompanied by fever, loss of appetite, burning sensation and goose-flesh. In more severe cases, the part gets swollen, discoloured and wet with discharge. The patient also develops deafness, fever, salivation and vomiting of blood.

Lizard bite

The bitten spot shows blackish and other colours. The patient may have confusion or hallucination and diarrhea.

Scorpion bite

The bitten area gives rise to a severe burning pain which radiates upwards initially but settles over the bite subsequently. If the bite is severe and has taken in much poison, the patient's eyesight, smell and taste may fail and his musculature may develop profound weakness. These features precede death.

Hornet sting

The tissue changes spread beyond the site of the sting and include swelling, pain and breakdown of

the bitten site. The systemic signs are fever and vomiting.

Ucchiṭinga

Gives rise to goose-flesh, erection of penis, severe pain and general body chill.

Bite of frogs

Poisonous frogs leave a single fang mark, which develops into a painful swelling; systemic manifestations include thirst, drowsiness and vomiting.

Fish bite

Bite by poisonous fish produces painful swelling associated with a burning sensation.

Bite by leeches

Bite by poisonous leeches gives rise to swelling with itching and general symptoms such as fever and fainting.

Centipede bite

The bitten site is the seat of burning pain, and the patient complains of perspiration.

Mosquito bite

This is accompanied by itching, mild swelling and slight pain. When the mosquito sting has injected a strong poison, the clinical features would resemble those of a insect bite.

Bee sting

The site shows eruptions which turn blackish and begin to ooze. The patient develops fever, burning sensation and fainting. The sting of sthagikā bee is fatal.

If the bites listed above take place in inauspicious places like cremation grounds or at inauspicious times such as noon or the eighth day of the lunar fortnight, the outcome may be fatal.[9]

PROCEDURES

There are twenty-four procedures employed in the treatment of poisoning.[10] They are listed below:

General

i. Incantation (mantra)
ii. Bath (avagāha)
iii. Bloodletting (raktamokṣaṇa)
iv. Emesis (vamana)
v. Purging (vireka)
vi. Care of the heart (hṛdayāvaraṇa)
vii. Eye application (aṇjana)
viii. Nasal application (nasya) (head evacuation)
ix. Medicated smoking (dhūma)
x. Applying medications over a scalp incision (upadhāna)

xi. Medications to be licked (lepa)
xii. Other medications (auṣadha)
xiii. Elimination through nose (pradhamana)
xiv. Antidotes (prativiṣa)
xv. Resuscitation (samjñāsamsthāpanam)
xvi. Revival (mṛtasanjīvana)

Local

xvii. Tourniquet (ariṣṭa, bandhana)
xviii. Incision (utkartana)
xix. Pressure (niṣpīdaṇa)
xx. Sucking (cū ṣaṇa)
xxi. Heating (agni)
xxii. Irrigation (pariṣeka)
xxiii. Local application of medication (pratisāraṇa)
xxiv. Applications of pastes (lepa)

The physician should choose from among the various procedures in order to find what is appropriate for a given patient. For example, if the poison has not spread when the physician sees the patient he should apply a tourniquet above the spot, apply pressure to expel the poison, incise to remove the fang except in a vital part of the body, or suck the wound with barley powder in his mouth. At this stage the wound should be scraped and bloodletting performed by applying leeches or a horn, lest the blood polluted by the poison kill the patient. The bloodletting can be facilitated, if necessary, by applying powders of trikaṭu, haridrā, five salts *etc.* If, however, the bleeding is excessive it should be arrested by applying a paste of cold drugs such as vaṭā. Cold application and fanning are desirable to counter the heating effects of poisons including drowsiness and palpitation. In this initial phase, poison which may have been swallowed should be removed by emesis and, in the subsequent phase, by purgation.

Physical procedures are used extensively in treating poisoning. Vātaja poisoning should be managed by oil massage, fomentation and nourishing diet; pittaja calls for cold irrigations and oily massage; kaphaja type should be dealt with by scraping, fomentation, removal of dead tissue and emesis. Generally, cold applications are advisable in all types of poisoning except in bites by scorpion and ucchiṭiṅga. The scorpion sting should be treated by fomentation, rubbing with salted ghee and ingestion of ghee with other food items. The treatment is similar for ucchiṭiṅga bite which needs rubbing with dust against the direction of the hair in that area, drinking tepid water and covering the injured part with a layer of hot dust.[11]

PROCEDURES APPLICABLE DURING THE COURSE OF ILLNESS

The procedures are tailored to the sequential stages of the clinical course.[12]

Stage Procedures

I and II	During these initial stages, protection of the heart is the main aim. This is achieved by any of the following preparations which may be available. • Honey, ghee, marrow, milk and ochre • Cow dung juice • Juice of cooked sugarcane or crow • Blood of goat • Ash or earth
III	Various alkalis (kṣāras) and swelling-reducing drugs with honey
IV	Cow dung juice mixed with kapittha, honey and ghee
V	Applying medicated eye paint or eye drops; nose drops with juice of kākaṇḍa and śirī ṣa
VI	Haridrā with cow's bile; or manjiṣṭā, marica and pippalī and measures to resuscitate
VII	Vegetable poison to counter animal poison, animal poison to counter vegetable poison
VIII	This is a moribund stage. The formulations recommended for this stage are listed separately.

PROCEDURES ACCORDING TO THE RELATIVE LOCATION OF POISON AND DOṢAS [13]

As poison lodges in the parts where doṣas are also located it is necessary to tackle the perturbed dosa first without detriment to the neutralisation of the poison. If the poison is lodged in the place of vāta, fomentation and the administration of a paste of tagara and kuṣṭha with curd are necessary. If the poisoning involves the location of pitta, bath and irrigation with cold water and drinks of ghee, honey, milk and water are in order. Poison in the kapha location calls for fomentation, bloodletting and all evacuative measures.

Formulations[14],[15],[16]

The formulations for use are indicated below:

Formulations	Actions	Remarks
Palāśa seeds, peacock's bile	Counteracts poison and revives the patient	Extract of seeds with half the quantity of bile
Vārtāku, phāṇita, soot etc., ending in nimba	Counteracts poison and revives the patient	
Surasā, granthi, haridrā etc., ending in kuṣṭha	Counteracts poison and revives the patient	Mixed with cow's bile; or juice of śirīṣa flowers and kākaṇḍa
Kākāṇḍa, surasa, indrāyana etc., ending in madanaphala	Effective for revival in near death in poisoning, drowning, hanging	Mixed as a paste and applied over an incised wound on the scalp; also used for nasal application
Spṛkkā, plava, sthauneya etc., ending in vidaṅga (44 items) (mṛtasanjīvana agada)	Destroys poisons, all manner of evils and imparts good health and wealth	Collected in pusya astral combination; ground in equal quantity and made into pills; used as a paste, snuff, amulet or smoke
Ṛṣabhaka, jīvaka, bhārgī etc., ending in fruit pulp of jujube	Relieves fever, shortness of breath	Mixed juice
Hiṅgu, pippalī, kapittha juice, rock salt	Relieves fever, shortness of breath and also relieves hiccup	Consumed with honey

Jujube seeds, anjana, parched paddy, water lily	Overcomes vomiting	Consumed with honey and ghee
Bṛhatī, āḍhakī	Relieves hiccup	Leaves used for smoking
Peacock feathers, bones of cranes, mustard and sandal	Subdues poison in the house, on cloth and furniture	Mixed with ghee and used for fumigation
Tagara, kuṣṭha	Destroys all sorts of poisons	Mixed with ghee, head of snake leader, śirīṣa flowers and used for fumigation (dhūmāgada)
Lac, uśīra, patra etc., ending in śvetā	Gets rid of snakes, rats, insects etc.	Used for fumigation
Ochre, haridrā, dāruharidrā etc., ending in kunkuma (kṣārāgada)	Counters poisons and a variety of ailments	Powders of equal quantity cooked with alkali from palāśa tree; made into pills, and dried in shade
Pippalī, śuṇṭhī, yavakṣāra	Appropriate in perturbed kapha	Mixed with fresh butter and applied over the bite
Māmsī, kunkuma, patra etc., ending in tulasī	Subdues all poisons	Ground in water; used orally, or for application in the nose, eye etc.
Candana, tagara, kuṣṭha etc., ending in vyāghranakha	Subdues all poisons	Ground with rice gruel water
Marica without bark	Effective in treating snake bite	Soaked in the juice of śirīṣa flowers for a week; used as snuff or eye applications or orally
Tagara, kuṣṭha	Effective in treating snake bite	Cooked with ghee and consumed with honey
Root of sindhuvāra, śveta, girikarṇikā	Effective in bite by darvīkara snake	Decoction; with kuṣṭha and honey for oral intake and nasal application

Manjiṣṭa, madhuyaṣṭī, jīvaka etc., ending in leaf buds of vāta	Effective in bite by maṇḍali snake	Used as a decoction
Trikaṭu, ativiṣa, kuṣṭha etc., ending in kaṭukā powder	Effective in bite by rājimān snake	All items powdered and mixed with honey
Soot, haridrā, dāruharidrā root	Potent against all snake bites	Mixed with honey and ghee
Bark of latex bearing trees, especially mukta	Effective against insect poisoning	-
Candana, padmaka, uśīra etc., ending in sārivā	Effective against spider poison	All ground together with śleṣmātaka juice
Madhūka, madhuka, kuṣṭha etc., ending in sārivā	Effective against spider poison	Decoction consumed with honey
Kusumbha flowers, teeth of cows, svarṇakṣīrī etc., ending in rock salt	Applied to rid the tissue growth at the site of insect bite	Made into a paste
Barks of kaṭabhī, arjuna, śirīṣa etc., ending in bark of latex bearing trees	Effective against injuries caused by insects and spiders	Used as a decoction, or powder
Tvak, śuṇṭhī	Effective against poisoning by scorpion, rat, spider and snake: also effective against gara viṣa	Ground in equal quantity and with hot water
Excreta of pigeon, mātuluṅga, juice of śirīṣa	Effective against scorpion sting flowers etc., ending in karañja	Ground together with honey
Śirīṣa seeds, snuhi latex	Used in frog bite	Ground together
Roots of śvetābhanṭī,	Used in fish bite trikaṭu	Ground in ghee
Vacā, bark of vaṁśa, pāṭhā etc., ending in realgar	Effective against insect bites	All ground together in the bile of rohitaka fish: used for eye, nasal or external applications
Svarjika, goat feces, yavakṣāra, surasā, akṣipīḍaka	Effective against centipede poisoning	Consumed with the top layer of wine

Kapittha, akṣipīḍaka, arka seeds etc., ending in dāruharidrā	Effective against sting of house lizard	-
Taṇḍulīyaka, juice of kākāṇḍa	Antidote to all poisons	
Fruit, root, bark, flower and leaf of śirīṣa (pancaśirīṣa agada)	Effective against all poisons	Consumed together in the same quantities
Somavalka, aśvakarṇa, gojihvā etc., ending in ochre	Relieves poisoning due to nails and teeth of quadrupeds and bipeds with inflammation	Made into a paste and applied externally
Devadāru, haridrā, dāruharidrā etc., ending in tagara	Remedy for bites of all quadrupeds cow's bile and honey	Powders with rock salt and anantā; mixed with
Powdered copper with honey; followed by powder of nāgakesara	Effective against repulsive food additives used by women to cast a spell and consequent ailments of body and mind	Physician to use careful interrogation and observation in making diagnosis
Nāgadantī, trivṛt, dantī etc., ending in madanaphala and cow's urine	Effective against venoms of snakes, insects and toxic agents	Cooked in buffalo's ghee
Śirīṣa bark, trikaṭu, triphalā etc., ending in lodhra (45 plant products) (amṛta ghṛta)	Effective against numerous ailments of the body and mind; revives the near-dead	Ground into paste and cooked in ghee with equal quantity of water, and urine of cow and goat; used orally and externally
Paste of caṛmankasā	Effective in moribund patients in whom poison has invaded kapha passage, and breathing is obstructed	Applied over an incision on the scalp

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Flesh of goat, cow, buffalo or cock	Absorbs the poison; effect as above	
Vartāku, bījapūra, jyotiṣmati	Effective for obstruction in nose, ears, throat, eyes	Paste used for nasal application
Devadāru, trikaṭu, haridrā etc., ending in tulasī	Relieves pain and discomfort in the eyes	Ground in goat's urine and applied in the eyes
Śveta, vacā, aśvagandhā etc., ending in vamśa lōcana (gandha hasti)	Counters poison quickly; has many other therapeutic effects in a variety of situations	Ground in equal parts goat's urine; added cow's and horse's bile alternately for a week: applied over a scalp incision
Patra, aguru, mustā etc., ending in tagara (60 items) (mahāgandha hasti yoga*)	In puṣya constellation they are collected and ground in cow's bile, made into pills, paste etc.	Used for oral intake and external application including the eye

OTHER MEASURES OF MANAGEMENT

POISONS IN DIFFERENT LOCATIONS [17]

Head

Snuff made from the roots of bandhujīva, bhārgī and black tulasī should be inhaled. The flesh of cock, crow and peacock with blood on it should be applied to an incision on the scalp if the bite is in the lower part of the body, and over an incision on the feet if the bite happens to be on the upper part.

Eye

Collyrium prepared from pippalī, marica, yavakṣāra, vacā, rock salt and śigru in the bile of rohita fish should be applied to the eyes.

Throat

Raw fruit of kapittha should be eaten with sugar and honey.

Stomach

Tagara powder mixed with sugar and honey should be given. However, when the location is the lower gut (pakvāśaya) a preparation of pippalī, haridrā, dāruharidrā and manjiṣṭā in cow's bile is to be given.

Rasa

Dried and powdered blood and flesh of alligator should be mixed with kapittha and given.

Blood

Bark of the roots of śleṣmātaka, stem of badara, udumbara and kaṭabhī should be prepared and taken.

Flesh

Roots of khadira, nimba and kuṭaja should be prepared in honey and water for administration.

In all locations, balā, atibalā, madhuka, madhūka and tagara are appropriate.

DIET[18]

In poisoning, the main components of the diet should be śālī or ṣā ṣtikā rice, priyaṅgū and rock salt. Vegetables such as taṇḍulīyaka, jīvantī, vartāka, maṇḍūkaparṇī etc., are also desirable. To produce sour effect, āmalakī and dāḍima should be used with soups of greengram and peas or that of bird or deer meat. Antidotes to poisons could also be added to the diet. The diet should be controlled and compatible for some time even after the poisoning has been successfully overcome.

SUSPECTED BITES[19]

A patient may give the history of walking in the dark and feeling a jab as if he had been bitten by a snake. He may be agitated and may complain of burning sensation, vomiting, fainting, fever, hallucination and diarrhea. The most important step in treatment is to reassure the patient and give him a drink of jaggery, lotus flowers, drākṣa, madhuka, payasyā and honey. His body should be sponged with clean water and incantations recited. All measures should be directed to uplifting his morale.

HOMICIDAL POISONING[20]

The king is in danger of enemy agents, relatives and scheming women. The royal physician should therefore be vigilant and should attempt to identify the felon whose appearance and conduct may arouse suspicion or give him away. In view of the possibility of the royal food being poisoned, food samples should be held over a flame and the different colours noted for identifying the poison which might have been used to adulterate food. Other abnormal characteristics of food should also be checked such as the loss of colour on preservation, death of flies and silent crows, discolouration of liquor which shows frothing on the addition of salt, smell causing headache, chest pain and fainting, touch giving rise to burning sensation, numbness etc., in the hand, and tasting associated with irritation and swelling of the lip, rigidity and abnormal colour of the tongue, sensitivity of teeth, lockjaw and salivation. When the poisoned food enters the stomach, the patient's colour turns abnormal and he develops malaise, sweating, nausea, derangement of vision and heart beat, and a generalised rash over the body. When the food has moved to the lower gut, debility and fainting or loss of consciousness may occur.

The poisoning of toothbrush, hair oil, collyrium, bath water, clothes, ornaments and cosmetics is known to occur and must be recognised by specific signs. Poison would also induce harmful and toxic changes wherever it is applied such as earth, footwear, seat, furniture, garland, smoke and water bodies, each of which would react and change detectably with harmful or fatal consequences for the victim.

CONCLUSION

When one has to move about during the day or night, one should carry an umbrella and rattle, which keep the snakes away. If bitten by a snake, one should bite it or a lump of earth immediately. A tourniquet should be applied above the bite, which should be excised or cauterised. Wearing a

precious stone such as diamond, antipoison stone or protective herbs is beneficial; so is the keeping as pets birds such as śārikā, peacock and crane.

58 *Alcoholic Disorders (Madātyaya)*

WINE

The virtues of wine are many. Honoured by Indra, used as an oblation during vedic rituals by sages, it was the nectar of the gods, the svadhā of ancestors, the soma of the highborn, the radiance of Aśvins and the power of Sarasvatī. It puts an end to sorrow, fear and anxiety, and symbolises love, celebration and cheerfulness. Regardless of its diverse origins, names and methods of preparation, all wines share the ability to intoxicate in varying degrees. However, carried to extremes, wine depletes one of energy and good sense as was told in the old story of Indra who could be rescued from his predicament only with difficulty.[1]

DRINKING WINE - PROPER AND OTHER USES

To enjoy wine to the full, the mood and atmosphere must be conducive. One should be clean, should wear perfumed garments, garlands and ornaments of the season, worship gods and rest on a comfortable seat or bed with pillow which should have good covers adorned with flowers. There, in the company of agreeable friends, one should drink wine in vessels of gold, silver or other suitable materials, inlaid with jewels. Beautiful young women, sporting lovely clothes, ornaments and garlands should be in attendance. The wine should be drunk with fruits, green vegetables, salted and seasonally appropriate articles such as roasted meat of various types prepared by expert cooks after offering prayers to the gods.

Body constitution has a role in the effects of wine on an individual. The vātala person should therefore take wine after oil massage, bath, decoration with scented paste or ointment and a meal of rich and hot food: a pittala individual should drink wine with sweet, oily and cold food; a śleṣmala person would do well to take wine as part of a hot regimen consisting of barley and wheat, and wild meat with black pepper. Wine made from jaggery and flour fits the vātala while that of grapes and honey would be appropriate for the pittala and śleṣmala subjects. The correct choice of wine and the leisurely practice of drinking belong to the affluent and those who wish to be affluent.[2]

In drinking wine, a wise person should bear in mind the interplay of food, drink, age, coexistent disorders, strength, time, the status of the three doṣas and three types of psychologic personalities.

This is necessary to avert the many pitfalls and dangers in drinking wine. A sāttvika person alone enjoys the benefits of wine without hurting his virtue or affluence; his ability to concentrate is unaffected, upon which depends happiness here and hereafter. Consumed properly, wine gives joy and energy, promotes strength and health as well as virility. The unwise who are victims of rajas and tamas, on the other hand, take to drinking wine, oblivious to the rules of proper conduct and become intoxicated. The road to intoxication is paved with sorrow, anger, delusion, seizures, unconsciousness, and certain death. Wine is no different from food in so far as it promotes good health when appropriate and disease when inappropriate. Propriety or appropriateness holds the key in the healthy use of food or wine. Even a poison, when administered properly, becomes beneficial.[3]

Like rain for plants, wine promotes the growth of the body. Like fire grading gold, it also shows up people as superior, average or inferior in terms of their response to drinking. For those who drink wine with due attention to propriety in method, quantity, time, food and time, wine is a nectar; to others who act in total disregard of propriety, wine is no better than poison.[4]

VIRTUES

Wine has many excellent virtues. It heightens appetite, builds the body and strength, improves voice and colour, banishes grief and fear, makes the dumb speak, wakes up those asleep while putting the sleepless to sleep, relieves constipation, and desensitises those injured or in pain. Above all, it is an antidote to itself.

Wine brings about pleasure, amiability, attachment to sense objects and the air of celebration even to the old. The pleasure that wine gives to the senses of the old and the young is incomparable. No wonder wine grants solace to all who are tormented by pain and grief.[5]

ADVERSE EFFECTS

Wine has ten properties - lightness, heat, sharpness, subtleness, sourness, quick absorbability, rapid action, roughness, depression and non-slipperiness. When wine enters the heart, because of intoxication, it neutralises the ten properties of ojas which has its seat in the heart. The properties of ojas are the exact opposites of those of wine. Thus heaviness of ojas is subdued by the lightness of wine, coldness by heat, smoothness by sharpness, denseness by subtleness, sweetness by sourness, viscosity by quick absorbability, slow action by rapid action, glossiness by roughness, elevation by depression and lubricity by non-slipperiness. As the ojas is disturbed so is the mind which slides into stupor.[6]

The first stage of intoxication on taking wine begins when the heart is touched but ojas is spared. In the second stage, ojas is impaired; in the third, ojas is completely overrun. When the ojas is ravaged by excessive drinking, mirth, thirst and other characteristics of rajas and tamas begin to show their effects and impair consciousness. This state is called stupor (mada).

The three stages of intoxication merit elaboration. In the first, the subject is jubilant, pleasant, talks well of food and drinks, tries his hand at vocal and instrumental music and revels in laughter and stories. Sleep is not disturbed. The second stage is characterised by confusion, alternation of clear and slurred speech, improper and excessive talk, restlessness, instability on standing and aberrant conduct towards food and drinks. As the mental doṣas - rajas and tamas - unhinge further, the patient slides into the third stage of intoxication when he lies still like a log and appears more dead than

alive. Not for him the pleasures of the senses or the recognition of friends. He becomes an unwelcome object of contempt, despised by all. In course of time, the addiction to wine wouJd also bring him painful diseases.[7]

A WINE PARTY

When sāttvic people with senses under control organise a wine party, the occasion is marked by pleasant conversation, an enjoyable level of drinking and intoxication, and friendliness. The rājasic party on the other hand would stand out by crowded surroundings, harsh or violent talk and untidy and disorderly conduct. A party dominated by tamas has no place for jubilation or pleasant talk, and often ends in anger, stupor and deep slumber.[8]

ALCOHOLIC DISORDERS (MADĀTYAYA)

CLINICAL FEATURES

The vātaja type of alcohol disorders show symptoms such as hiccup, shortness of breath, head tremors, headache, insomnia and delirium. This occurs when a debilitated person, given to excess sexual or physical activity travel, and emotional bouts, eats scanty meals and consumes large quantities of rough and old wine.

The pittaja version is characterised by thirst, burning sensation, fever, fainting, diarrhea, dizziness and greenish colour. It is seen in persons who drink too much sharp, hot or sour wine along with hot and sharp food and are then exposed to the fire or hot sun.

Alcoholic disorders of the kaphaja type are marked by nausea and vomiting, drowsiness, rigidity and heaviness of the body and sensitivity to cold. They tend to occur when individuals take too much fresh wine made from jaggery or flour, consume fatty and heavy food, refrain from physical activity and indulge in sleep during the day.

As the clinical features of alcoholic disorders deteriorate they closely resemble the clinical picture of poisoning. The perturbation of the three doṣas by alcoholic intoxication is clinically equivalent to poisoning. In this stage a cluster of highly disturbing symptoms and signs appear including confusion, fever with chills, thirst, loss of appetite, shock-like pain in the head, sides and joints, tremors, compression in the chest, shortness of breath and hiccup, diarrhea, visual hallucination, abnormal behaviour and delirium.[9]

MANAGEMENT

Alcoholic disorders arise from the perturbation of the three doṣas in varying degrees. As kapha is primarily involved, the management should begin by measures to settle disturbed kapha. The disorders arise from too much or wild drinking, but the remedy also lies in administering wine in the appropriate doṣage. Following preliminary treatment of indigestion and lightening measures, wine of the kind that the patient likes should be given, cold and in proper quantity, with suvarcalā, bida, rocksalt, mātuluṅga and fresh ginger. Wine is the most acidic among substances and succeeds in neutralising the excited chyle which had been turned alkaline under the effect of hot, rough and burning wine.[10] (Alternatively, sour buttermilk, lime juice or other sour substances could be used).

Vātaja [11]

As the perturbed vāta blocks the passage through body channels, wine should be given to dissolve the blocks and restore natural flow. Wine is effective thanks to its properties of quick absorption, sharpness and heat. As wine succeeds in opening the channels, improving appetite and reestablishing the normal downward direction of vāta, the patient recovers from disorders including stupor.

The patient's diet should consist of the soup of bird meat, śālī rice with soup of other meats, fatty, hot and salty preparations, various items made from wheat and blackgram. The meat of animals prepared with modest quantities of fat and seasoned with black pepper and fresh ginger or with pomegranate juice, trijāta, dhānyaka, marica and ārdraka should be given warm. The meal should be followed by drinks of the top layer of vāruṇī, pomegranate juice, water boiled with pancamūla and the top layer of curd or gruel. Other favoured and useful items are pickles, oily massage, hot bath, rubbing of aguru paste, a comfortable bed and the amorous company of beautiful women with heavy breasts, hips and thighs.

Pittaja[12]

The appropriate items for the patient's diet are meat of rabbit, deer and birds such as quail, sweet or śāli rice, goat's meat soup with green gram or dāḍima, and juice of drākṣa, kharjūra and parūṣaka. Wine prepared from grapes, supplemented by sugar and juices of bhavya, khaṛjūra, mṛdvīka or pomegranate should be consumed with parched flour of grains as the main remedy to the illness.

If the patient has symptoms of a full stomach due to accumulated impurities including burning sensation, wine, grape juice or water should be given and emesis induced. When appetite returns the patient should be given sweet drinks and digestive formulations. As the digestion improves, sweetened and soured goat's meat soup should be given followed by wine in limited quantities. Wine diluted with water should also be given in small quantities frequently to relieve thirst. A paste of pancāmlaka (kola, dāḍima, vṛkṣāmḷa, cukrikā and cukrikā juice) would also alleviate thirst on painting inside the oral cavity.

If the patient's condition worsens and he develops cough with blood in the sputum, pain in the chest and sides, a decoction of guḍūcī, devadāru and mustā followed by partridge meat would be advisable.

There are many other ancillary measures to bring relief to the patient with pittaja disorders of alcohol. These are cool rooms, cool drinks and food, cold air, moonlight, flowers such as lotus and lily, sandal water, water from gold, silver or bronze containers, air blown over snow, women fresh after bath in sandal water, pleasant stories, sound of peacocks and bird song, chambers with a mechanical shower for cold water (jalayantra) and fans. For continued burning sensation, the following formulation may be useful.

Formulations	Actions	Remarks
Priyaṅgū, uśīra, lodhra etc., ending in śyōnāka	Relieves burning sensation	Ground and mixed with kālīyaka juice

Kaphaja[13]

To begin with, emesis and fasting should be ordered and thirst relieved by water boiled with hṛbēra, balā or pṛṣniparṇī or other equally effective herbs. When his indigestion has been overcome and

appetite restored, a special diet should be recommended. The several recommended preparations are listed below:

Preparations	Remarks
Barley or wheat with parched grain flour, yavāni and śuṇṭhī	Consumed with a thin, light, spicy soup and a little ghee
Soup of paṭola or āmalakī	Strong seasoning added; taken with barley
Meat roasted in a utensil or earthen oven	Pungent, sour and salty additives; followed by wine
Roasted meat, mātuluṅga juice, yavāni, śuṇṭhī	Plenty of black pepper, other strong seasoning, ārdraka pieces, sour pomegranate etc., followed by wine
Sauvarcalā, jīraka, vṛkṣāmla, amḷavetasa, elā, tvak, marica, sugar (aṣṭāṅga lavaṇa)	Powdered together; heightens appetite; may be given with honey
White seedless grapes, seasoning	Ground with mātuluṅga juice and aṣṭānga lavaṇa: improves appetite
Pulp of āmalakī; dhānyaka, sauvarcala, jīraka, kāravi, marica, jaggery and madhuśukta	Prepared as rāga which is sweet and sour; improves digestion and appetite

If the symptoms of intoxication persist in spite of all these measures, milk should be given until the patient recovers. At that stage, milk should be discontinued and small doses of wine resumed.

Apart from regulated diet and drinking of wine, patients with kaphaja disorders due to alcohol would benefit from reducing measures, reducing sleep, warm clothes and massage by the gentle and trained hands of women.

COMPLICATIONS

When a person resumes heavy drinking of wine after a period of abstinence two complications may arise. These may be cured only with difficulty:

Dhvamsaka

The patient may develop profuse salivation, dryness of mouth and throat, irritability and tendency to sleep.

Vikṣaya

Discomfort in the throat and heart region, confusion, vomiting, bodyache, fever, cough and thirst. They are liable to occur in persons who are debilitated and are managed on the lines prescribed for vātaja disorders.

CONCLUSION

The prudent who stay away from all forms of alcohol and those who have brought their senses under control do not fall victim to mental or physical ailments.[14]

59 *Sores and Injuries (Vraṇa)*

Sores may occur due to internal or external causes. The internal type results from the perturbation of doṣas while the external variety is caused by extrinsic factors such as injuries by fangs and weapons. The two types differ in clinical features as well as treatment. However, if the external sore fails to respond to treatment and suggests internal causation it should be treated as if caused by perturbed doṣas.[1] Before discussing other classifications of sores, a preliminary description of internal sores is appropriate.

The vātaja sore is hard, rigid, painful, darkish and associated with a throbbing sensation and viscous discharge. The main elements of treatment consist of building up, lubrication followed by fomentation and the application of ointments and medicated irrigation. The pittaja sore is accompanied by thirst, fever, perspiration, burning sensation and foul-smelling discharge. Its treatment is based on the intake of ghee, painting with special ointments, irrigation with cold, sweet and bitter drugs and purgation. The kaphaja type is of long duration, exudes a thick and slimy discharge, is pale in colour and heavy. It should be dealt with by the application of pastes and irrigation with astringent, rough and hot drugs, measures to lighten the body, and improve digestion.[2]

Sores are classified following the physician's examination which consists of inspection, interrogation and palpation. Inspection relates to the age, colour, status of body parts and sense organs whereas interrogation would focus on causation, pain, seasonal adjustment and the digestive power of the patient. Palpation is used to assess softness and coldness and their opposite properties.[3]

VARIOUS CLASSIFICATIONS

Based on clinical features there are twenty types of sores.[4] They are the following:

1. Ready/not ready for opening
2. Complicated/uncomplicated
3. Located/not located in vital parts
4. Open/not open
5. Severe/mild

6. With/without discharge
7. Smooth/rough surface
8. Baggy/non-baggy
9. Raised/depressed
10. Venom present/absent

Explanatory notes on some of the above features are given below and the number of varieties of each indicated within brackets:

Locally complicated sores

These are white, grey, blue or black in colour. The opening may be narrow, like the neck of a bottle, or wide. It is associated with numerous boils of red or black colour; it is resistant to healing and has a foul smell (12).

Location: Skin, blood vessels (sira), muscle, fat, bone, ligament (snāyu), vital parts and internal organs (8).

Smell: The smells present in sores are those of ghee, oil, muscle fat, pus, blood, dead body, acidic and rotten (8).

Discharge: May be lymphatic, watery, bloody, purulent, oily, rough and coloured yellow, reddish, brownish, saffron, blue, green, white and black (14).

GENERAL COMPLICATIONS

These are cellulitis, paralysis, blockage of blood vessels, generalised stiffness of muscles (apathānaka), delirium, insanity, hiccup, tremor, lockjaw, fever, thirst, shortness of breath, cough, vomiting, diarrhea, and pain (16).

RESISTANCE TO HEALING

There are many factors which promote resistance. These are watery swelling of ligaments, excess collection of fluid in blood vessels, depth of wound, maggots, underlying fracture of bone, foreign body, poisons, growth by spread, injuries by nail or wooden splinter, scratching, abrasion by hair, wrong practice of bandaging, excessive application of lubricant substance, emaciation, overindulgence in food including disagreeable or unsuitable items, indigestion, emotions such as sorrow and anger, sleep during day time, excess physical activity or inactivity, and sexual intercourse.

CLINICAL COURSE[5]

A favourable course toward cure is indicated by the sore being confined to the skin or muscle, sparing of vital parts, absence of complications, young age of the patient, and recent onset. If all these favourable factors are absent the sore is not curable.

TREATMENT

There are thirty-six procedures for treating sores. A physician should choose the appropriate procedure from among them for treating different types of sores.[6] Some of these procedures will be

discussed below in terms of the clinical features which warrant their application.

INFLAMED SORES [7]

When acute changes of inflammation are seen in the early stage of a sore, bloodletting may abort the sore. If vāta is dominant in the acute phase, non-irritant food, decoctions and ghṛtas are appropriate. The application of medicinal pastes locally is also beneficial. If these measures fail, poultices of various kinds should be applied over the inflamed site until it ripens. The unripe state is associated with burning or piercing pain and redness, whereas ripening is indicated by the appearance of fluctuation.

SURGICAL MEASURES

When ripe, the swelling should be opened with a sharp instrument.[8] The surgical procedures for treating this condition are incision, puncture, excision, abrasion, scarification and suture, each having its place in specific situations. Thus a mature abscess, swelling with foreign body lodged within, and abdominal swellings may need incision; fluid in the abdomen, boils and cellulitis may need to be treated by puncture; sores with thick and protruding edges, piles etc., by excision; leucoderma and certain skin diseases by abrasion; enlarged nodes, certain swellings and injured parts and red rashes etc., by scarification where multiple superficial punctures are made; and surgical opening of the bowels and abdomen by suture. If the swelling is baggy with a small opening and copious discharge and is not located on a vital part, probing with a soft or hard probe would be appropriate.[9]

LOCAL APPLICATIONS [10]

When the abscess is baggy with a small opening, a medicated paste without fat should be rubbed over it and the swelling gently squeezed. Abscesses with rakta pitta should be treated by applying cold ghee as a paste or as irrigant a hundred times. The same purpose would be served by formulations such as nyagrodhādi or balādi: when a sore or wound is long, a paste of honey and ghee should be applied before apposing the margins correctly and tying a bandage. As the edges become firm, medicated powders of different kinds should be applied to speed up healing. Some of the other formulations used locally are listed in the following table.[11]

Formulations	Actions	Remarks
Kṛsara, pāyasyā	Effective in dry, painful, rigid sores	As bolus fomentation
Linseed, sesamum seeds	Effective in dry, painful, rigid sores	Roasted, soaked in milk and ground; applied as a paste
Balā, guḍūci, madhuka etc., ending in fish fat (sneha śarkarā)	Relieves pain	Cooked in ghee with beeswax
Daśamūla, milk, ghee	Relieves pain	Mixed with oil; used to irrigate sores
Barley powder, madhuka, tila	Relieves pain	Mixed with ghee and applied as a warm paste
Mudga, tila	Relieves pain and burning sensations	Applied as poultice

CARE OF SORES AND WOUNDS [12]

Foul smelling sores and wounds should be cleaned with decoctions of herbs such as triphalā, khadira, dāruharidrā and nimba leaves. The paste of tila, salt, haridrā, dāruharidrā, nimba leaves etc., is also a good cleansing agent. The formulations which promote healing in clean sores and wounds are given in the following table.

Formulations	Actions	Remarks
Nyagrōdha, udumbura, aśvattha etc., ending in kuṭaja	Promotes wound healing	Made into decoction
Candana, stamens of lotus, bark of dāruharidrā etc., ending in madhuyaṣṭī	Promotes wound healing	Made into decoction
Prapauṇḍarīka, jīvanti, gojihvā etc., ending in sesamum	Promotes wound healing	Made into a paste: applied with ghee
Kampillaka, viḍaṅg-, kuṭaja etc., ending in candana	Promotes wound healing	Ground and cooked in oil
Durvā juice, kampillaka, paste of dāruharidrā bark	Promotes wound healing	Oil cooked with any of the three, applied locally

The above applications in oil or ghee are especially beneficial for sores with dominance of rakta pitta. After cleansing, leaves of kadamba, nimba, pippalī, etc., are used to dress the sores. This is followed by the application of a bandage consisting of plant bark, clear hide or cloth of flax. The bandage could be applied either from the right or left.

If the floor of the sore is too low, jīvaniya group of drugs should be used to promote tissue growth: if the floor is high with excess growth, nodes of bhūrja tree, purgatives, guggulu etc., may help in reducing it. In either event the floor of the sore levelling with the skin surface promotes healing.

The formulations used for the care of wounds and sores in later stages are given below: [13]

Formulations	Actions	Remarks
Bark of kakubha, udumbara, aśvattha etc., ending in kaṭphala	Promotes skin cover	Powdered and applied
Realgar, orpiment, manjiṣṭā etc., ending in dāruharidrā	Good for wound dressing	Made into a paste with ghee and honey
Iron powder, kāsīsa, triphalā and dhātaki flowers	Darkens the healing skin	Made into a paste
Kālīyakā, tagara, mango seed etc., ending in triphalā	Restores normal skin colour	Mixed with cow dung; used for external application
Dhyāmaka roots, aśvattha, nicula, etc., ending in kāsīsa	Restores skin colour	
Ash of skin, hair, hoof, horns and bones of quadrupeds	Promotes the growth of hair	Powdered and applied after smearing oil

Cauterisation [14]

This procedure is used for bleeding following excision of nodules or growth, rigidity due to vāta disorders, sores with underlying pus, and after amputation of a limb. Experts would use beeswax, oil, marrow, honey, medicated ghṛtas and hot metal rods for performing cauterisation. Deep wounds and sores dominated by vāta in rough patients should be cauterised with fat or beeswax or alternatively, with hot metal rods. Cauterisation should not be used in children, old and weak persons, pregnant women and those suffering from a variety of ailments including internal bleeding. When a patient is fit for surgical procedures or cauterisation, expert physicians would also consider the use of alkali.

Fumigation techniques have a role in softening hard sores and hardening soft sores. Fumigation also reduces pain, bad smell, maggots and discharge. There are several other formulations for local application and for hastening the healing process.[15]

Fractures [16]

Fractures of bone and dislocations of joints should be corrected by experts by restoring normal appearance in comparison with the opposite side. As soon as the position is set, splints and pads should be applied to maintain it. This should be followed by the application of a cloth bandage dipped in ghee without causing any discomfort to the patient. The diet should be bland and should include flour. Any movement such as hanging which tends to dislocate joints should be avoided. Complications such as cellulitis should be treated promptly.

60 *Three Regional Disorders (Basti, Hṛdaya and Śiras)*

PRINCIPLES

VITAL REGIONS OF THE BODY[1]

The body has one hundred and seven vital regions located throughout the trunk and extremities. As seats of consciousness, their injury would cause severe pain. This is especially true for the vital regions on the trunk, which have control over those on the extremities. Of the vital regions of the trunk, the heart region, pelvis and head are the most important because they constitute the roots of the body. The heart serves as the hub of a wheel, the spokes the ten vessels, prā ṇa and apāna, mind, intellect, consciousness and the five mahābhūtās. In the head, the senses, their respective channels and vital breath radiate from the centre as the rays disperse from the sun. Pelvis (bastī), on the other hand, is a receptacle in the lower abdomen, situated in relation to the centre of the rectum, scrotum, perineum and the channels carrying semen and urine. As a receptacle for fluids it stands in relation to channels as the sea does to the rivers. Injury to any of the three vital regions is equivalent to the breakup of the entire body. For example, a damaged heart gives rise to cough, shortness of breath, dry throat, pulling in of the chest, protrusion of the tongue, seizures, insanity and stupor. Diseased head is the cause of stiffness of the jaws and neck, facial weakness or distortion, rolling of eyeballs, confusion, muscle cramps, cough, shortness of breath, stutter, drooping eyelids, yawning, and salivation. When the pelvic region is assailed by disease, the patient would develop retention of urine, stools and wind, pain in the lower abdomen and genitalia, abdominal distension and rigidity, upward movement of air, and stiffness around the navel, anal region and hip.

Being vulnerable, all the three vital regions should be protected from the perturbation of vāta. Vāta after all is the basis of vital breath and capable of disturbing pitta and kapha as well. As vāta lends itself to management by enema, the diseases of the vital regions are best treated by enemas. The six formulations of lubricant enemas (Chapter 66) and various formulations against vātaja disorders are applicable in this context. The broad outlines of treating the disorders of the three vital regions are given below:

Target of vāta disturbance	**Outlines of management**
Heart	- Powdered asafoetida and salt; consumed with mātuluṅga or other sour juices

	- Laghu pancamūla with sugar as drink - Gruel diet cooked with bṛhat pancamūla
Head	Massage, fomentation, lubricant therapy, medical snuffing and smoking, application of poultice
Pelvic region	Fomentation, suppositories, non-lubricant enemas, lubricant enemas. Non-lubricant enema used after evacuation, lubricant therapy and fomentation (in that sequence)

DISORDERS OF THE VITAL REGIONS[2]

HEART

Perturbed vāta travels upwards to the heart, head and temples and disorders their functions. The patient develops confusion, shortness of breath, bends the body like a stiff bow, closes eyes, makes cooing sounds like a pigeon and loses consciousness; when the heart is freed from the grip of vāta, he becomes normal (apatantraka or apatānaka). Head evacuation by the fine powder of marica, seeds of śigru, viḍaṅga and phaṇijjaka, and the ingestion of the powder of tumburu, harītakī, hiṅgu, puṣkaramūla, and three salts with barley water are beneficial. Other formulas include hiṅgu, amlavetasa, śuṇṭhī, sauvarcalā and pomegranate as well as ghṛta processed with suvarcalā, harītakī and trikaṭu.

The condition of marked drowsiness (tandrā) may occur when regular intake of sweet, oily and heavy food, physical and mental overexertion, chronic illness etc., perturb vāta and kapha, which throw a mantle around the heart and the intellect located therein. Restlessness, laboured speech and activity, dullness of the mind and intellect are the clinical features of this condition. The principles of management include evacuation for kapha, physical activity, diet of pungent and bitter articles and bloodletting.

PELVIS

Most of these disorders relate to the urinary bladder. They are listed below:

Disorders and their mechanisms	**Clinical features**
Mūtraukasāda: Pitta or kapha or both perturbed in the bladder by vāta	Burning sensation; red, yellow urine with precipitates

Mūtrajaṭhara: Urine flow blocked by suppression of urge; reversal of vāta	Abdominal distension, pain, indigestion, retention of urine and stools
Mūtrakṛcchra: Sexual intercourse ignoring the urge to urinate displaces semen; blocked by vāta	Passes semen before and after urination
Mūtratsaṇga: Vāta distorts urinary channels;	Urine passed with or without pain in a broken stream
Mūtrasankṣaya: Urine evaporated by perturbed vāta	No urinary flow
Mūtrātīta: Long suppression of the urge to urinate	Slow or delayed flow
Vātāṣṭhīla: Vāta obstructs flow of urine and feces out of bladder and rectum, which are distended	Mobile and painful stony mass in the lower abdomen: obstructs passage of urine and stools
Vātabasti: Suppression of the urge to urinate	Discomfort; retention of urine; itching
Uṣṇa vāta: Urine dried up by vāta and pitta	Discomfort and burning sensation in the pelvis and perineum
Vāta kuṇḍalikā: Blocked vāta moves upwards	Retention of urine; when passed, the stream is broken; stiffness, severe pain, retention of stools
Mūtragranthi: Perturbed vāta and kapha affect blood and produce a hard nodular mass at the mouth of the bladder	Painful and difficult urination
Vidvighāta: In an emaciated patient, stool reverses course due to vāta and enters urinary channel	Stool appears in urine; foul smell and difficult urination
Bastikuṇḍala: Due to rough travel, jumping, injury etc., bladder bulges and is displaced by forceful vāta	Pain, shivering, burning sensation, cramps. Urine comes drop by drop, but becomes a stream when pressure is applied on the bladder

Management of urinary disorders[3]

Urinary complaints should be treated with drug formulations that promote the flow of urine. Additionally, all patients would need enema and urethral wash.

The catheter for urethral wash should be smooth, tapered like a cow's tail, and made of gold or silver. It should have the dimension of a jasmine or oleander bud across, the length of twelve finger-breadths, an opening the size of a mustard seed at the tip, and should have two rings at the other end. The catheter should be fitted into a goat's urinary bladder which should contain the lubricating substance measured according to the age of the patient. Having taken a bath and a light meal of meat soup or milk and relieved himself, the patient should be made to sit comfortably on a knee-high seat. His penis should be held straight and a probe coated with ghee inserted into the urethra to rule out possible blocks. Then a lubricated catheter appropriate to the size of the penis should be introduced into the urethra keeping the course to the midline. Overinsertion would injure the bladder whereas underinsertion may fail to deliver the lubricant substance. After squeezing in the substance steadily, the catheter should be removed. After the lubricant substance comes out, a second and third wash should be given in a similar manner. A urethral suppository could also be beneficial in many urinary disorders. The suppository is prepared by grinding pippalī, salt, soot, apāmārga, mustard, juice of vartāka, nirgundi, āragvadha and sahacara in cow's urine and a sour juice with jaggery, and making a rod of the size of a mustard at the tip and blackgram in the proximal half. Soft and unbreakable, it should be lubricated before urethral insertion. When the lubricant substance or suppository comes out, the patient should be managed on the lines of a post-evacuation regimen.

For urinary disorders, pain in the genital passage, prolapse of uterus, excessive bleeding during periods and incontinence of urine in women, a similar technique should be used for washing the genital passage with appropriate medications during monthly periods when the uterine channel is receptive to medications. A catheter, ten finger-breadths long and having the diameter of a greengram, should be inserted up to four fingers deep in the genital passage of an adult male, two fingers deep in the urethra and one finger deep in the female child. It should be inserted when the patient lies comfortably on the back with the legs fully flexed. The lubricant substance should be given through the catheter two, three or four times in twenty-four hours. After the wash, a suppository of the appropriate size should be put in place and the treatment continued for three days.

HEAD[4]

Disorders	**Outline of management**
Śankhaka: Blood, pitta and vāta perturbed severely and spread to temples; head evacuation, irrigation and swelling, pain, redness follow with blocking of the throat and head. Fatal in three days	If the patient shows signs of survival, measures recommended for cellulitis should be carried out
Ardhāvabhedaka: Due to indiscretions in food, suppression of urges, overexertion etc., vāta is vitiated and, along with kapha, attacks one half of the head with severe pain, throbbing in one half of the neck, eyebrow, temple, ear, eye and forehead; may damage vision and hearing	Maximum dose of four lubricants; head evacuation; purgation, fomentation, and lubricant enema, poultice and nasal irrigations
Sūryāvarta: Dietary indiscretion, suppression of	Postprandial ghee, head evacuation, purgation,

urges etc., perturb vāta and blood, which affect and liquefy the brain slowly as the sun goes up in the sky and the day gets hot; headache increases as the day progresses, and decreases by sunset when the brain solidifies again	poultice of meat or three fats on the head; ghee from milk boiled with bird meat and cooked with jīvanīya drugs and milk should be taken for nasal inhalation
Ananta vāta: Fasting, emotional stresses etc., perturb the three doṣas and cause severe pain in the sides and back of the neck, eyebrows and temples. Eye disorders and stiffness of jaw may be present	Bloodletting should be done. Tremors of the head should be treated by giving a lubricant substance prepared with guḍūcī, balā, rāsnā, mahāśveta and aśvagandhā. Lubricant therapy, fomentation and nasal application of drugs by smearing are also beneficial

Nasal therapy[5]

Nasal application of drugs falls in the following categories:

Snuffing - The drug may be lubricant or evacuative

Pressing - May be retentive or evacuative

Blowing - Powder blown into nostrils; it cleans body channels

Smoking - Three types (discussed earlier)

Smearing - Lubricant applied; effective in evacuation and for settling disturbed doṣas

Nasal therapy for head evacuation is useful for kaphaja disorders as shown by stiffness, numbness, heaviness *etc.* Therapy for saturation by lubricant substances, on the other hand, is applicable for vātaja diseases such as head tremors and facial weakness.

For applying saturating therapy with lubricant substances, the patient should lie down comfortably on a low cot after finishing routine chores, with the head slightly lowered and feet raised. The head should then be fomented and the nose raised with the left thumb of the physician. Through a tube in the right hand, he should steadily administer the lubricant substance in both nostrils. Fomentation should be repeated and the lubricant substance drawn out completely. To prevent kapha from lurking behind, smoking should be encouraged after the lubricant application. An agreeable diet, lining in a wind-free area, use of hot food articles and drink, and control of senses will hasten complete recovery of the patient.

Snuffing, blowing and smearing are also useful techniques which are carried out in specific conditions.[6]

A more detailed classification of the disorders of the three vital regions and a description of the various formulations employed in their treatment are given in this therapeutic section.

PELVIS (BASTI)[1]

Upward movement of wind (udāvarta)

Apāna wind (vāyu) is located in the large bowel. When perturbed by food, suppression of urges, or sexual intercourse, apāna blocks the free passage of wind through the bowel. This leads to the retention of stool, wind and urine followed by the movement of wind in the upward direction (udāvarta). The clinical features are pain in the lower abdomen, chest and sides; distension of the abdomen, nausea, increasing severity of pain, indigestion, retention or difficult passage of stool, irritability of urinary bladder, drying up of the body, fever, headache, thirst, confusion, internal bleeding, cough, shortness of breath and facial weakness. There could also be other symptoms on account of perturbed vāta.

The management of the condition starts with an oil massage followed by drugs to relieve fever with chills, and fomentation. If the improvement is unsatisfactory, suppositories, lubricant and non-lubricant enema, purgatives and a light diet that promotes downward movement of wind would be appropriate. The suggested formulations are:

Formulations	Actions	Remarks
Śyāmā, trivṛt, māgadhikā etc., ending in māṣa	Relieves udāvarta	Mixed in given proportion and ground in cow's urine; salt and jaggery added to make thumb-size suppositories
Oil cake, sauvarcalā, hiṅgu etc., ending in jaggery	Relieves udāvarta	Made into suppositories
Viḍaṅga, kampillaka, śankhinī etc., ending in jaggery		Made into suppositories
Pippalī, sarṣapa, madanaphala etc., ending in jaggery	Relieves udāvarta	Made into suppositories
Sarṣapa, tumbī, madanaphala etc., ending in rock salt	Relieves retention of stool, urine; promotes downward movement of wind	Powdered and blown into rectum through a lubricated anus
Emetic/purgative drugs, urine, oil, alkali, acid and vāta pacifying agents		Given as a strong, non-lubricant enema after oil massage and fomentation
Urine, wine, top layer of curd, sukta		Given as purgative
Hiṅgu, vacā, citraka, etc., ending in viḍaṅga	Relieves colic, hard stools with diarrhea, abdominal distension and udāvarta	Powdered and consumed with warm water
Stirādi varga roots, punarnavā, āragvadha and pūtikakarañja	Relieves obstructed wind	Cooked in ghee
Fruits and roots of purgative herbs, hiṅgu, arka roots etc., ending in punarnavā	Softens hard stools and relieves colic	Ground with five salts and cooked in closed earthen jars; powdered and used with food

As the patient improves, he should be given a diet of barley, leaves of trivṛt, snuhi, sesamum *etc.* Soup of the meat of domestic animals or fish followed by sparkling wine may also help in reversing udāvarta.

DIFFICULT URINATION [2]

Severe physical exertion, travelling in fast moving vehicles, eating incompatible food including too much aquatic meat, and drinking too much wine can give rise to eight types of difficult urination. Doṣas, perturbed singly or jointly, converge on the lower abdomen and put pressure on the urinary passage to produce difficulty in urination. When vāta disturbance is primary, the patient has severe pain in the groins, lower abdomen and penis, and passes small quantities of urine frequently; in the pittaja type, the urine may be yellow in colour or may contain blood and give rise to burning sensation; the kaphaja variety is associated with a sensation of heaviness in the lower abdomen and penis and mucoid appearance of urine. The sannipāta type combines all these features in varying

measure.

When vāta dries up semen or urine, pitta or kapha, a stone forms slowly like the formation of a stone in a cow's gall bladder. When the stone - smooth, shining, hard or soft - blocks the passage of urine, the patient may experience pain in the middle of the perineum, penis and bladder region. The pain may be so severe that the patient sometimes squeezes the penis and passes stool. The urinary stream may be forked and may contain blood if the stone has irritated the passage. When the stone moves the difficulty in urination may disappear: when broken down by vāta, it may turn into gravel. When the doṣas in the urinary bladder block the passage of semen, the clinical features would include pain in the lower abdomen and penis, passage of semen in urine and painful swelling of the testicles. Stone arises from blood or semen shed into the bladder due to injury, which combines with urine and grows in size to produce distension of the urinary bladder and severe discomfort which is relieved by the passage of the stone.

The treatment of difficult urination differs according to the absence or presence of stones. In their absence, vātaja type of difficult urination should be managed by massage, lubricant and non-lubricant enema, application of poultice, urethral instrumentation and a diet of meat and vāta-relieving ingredients. A formulation which is beneficial is as follows:

Formulations	Actions	Remarks
Punarnavā, eraṇḍa, śatāvarī etc., ending in yava	Relieves vātaja type of difficult urination	Decoction cooked with oil, fat ofpig and bear, and salt; also used as poultice

When the painful urination is pittaja in origin, cold irrigation and bath, oily massage, enema, milk and purgatives with juice of grapes, vidāri and sugarcane, and ghee should be used in management. The following formulations are also beneficial.

Formulations	Actions	Remarks
Śatāvarī, kāśa, gokṣurā etc., ending in kaśeruka	Relieves pittaja type of difficult urination	Cold decoction with honey and sugar consumed
Seeds of cucumber, trapuṣa, vāsā, saffron	Relieves pittaja type of difficult urination	Consumed with grape juice
Seeds of cucumber, madhuka and dāruharidrā	Relieves pittaja type of difficult urination	Consumed with rice water

In the kaphaja cases of difficult urination, alkaline, hot and strong drugs should be given along with a barley-based diet, fomentation, emesis, non-lubricant enema, massage and ingestion of oil processed with bitter herbs. The useful formulations are indicated below:

Formulations	Actions	Remarks
Trikaṭu, gokṣurā, small cardamom, bones of cranes	Relieves kaphaja type of difficult urination	Powdered and consumed with honey and urine
Seeds of śītivāra	Relieves kaphaja type of difficult urination	Consumed with buttermilk
Coral powder	Relieves kaphaja type of difficult urination	Consumed with rice water
Saptaparṇi, āragvadha, kevuka etc., ending in guḍūcī	Relieves kaphaja type of difficult urination	Decoction cooked in rice gruel and consumed with honey

When the difficulty in urination is due to urinary stones or gravel the measures recommended for the vātaja and kaphaja disorders should be tried. The specific remedies for breaking down and eliminating urinary stones and gravel are indicated below:

Formulations	Actions	Remarks
Pāṣāṇabheda, vāsā, goksūra etc., ending in vacā	Breaks and eliminates stones and gravel	Powdered and consumed
Roots of gokṣurā, ikṣuraka, eraṇḍa ending in kaṇṭakārī	Breaks and eliminates stones and gravel	Powdered and taken in sweet curd for seven days
Punarnavā, aguru, haridrā etc., ending in darbha flowers	Breaks and eliminates stones and gravel	Ground with milk, water, urine and sugarcane juice
Small cardamom, devadāru, five salts etc., ending in triphalā	Breaks and eliminates stones and gravel	Powdered and mixed as directed. Consumed with meat soup, wine etc.
Śigru root paste	Breaks and eliminates stones and gravel	Made into soup and cooked with ghee and oil: consumed frequently with the top layer of curd and salt
Śobhāñjana root	Breaks and eliminates stones and gravel	Ground in water
Sugar candy	Relieves all types of difficult urination	Mixed with same amount of yavakṣāra
Kārpāsa root, vāsā, pāṣāṇabheda etc., ending in asanaparṇī	Beneficial in difficult urination due to the blockage	Decoction made and cooked with meat soup and given in of semen vāta: cooked in milk or ghee for pitta

If the above measures do not relieve the symptoms, old wine and bird meat should be given with irrigation of the semen pouch. When he has improved, aphrodisiacs and the company of beautiful women would be advisable.

If the formulations are not effective, the patient should travel in a fast chariot or on a horse, which may help in the expulsion of gravel. If these measures fail, a surgical expert should be called to

remove the stone.

HEART REGION AND CHEST (HṚDAYA)[3]

Excessive physical activity, vigorous evacuative therapies, faulty treatment of diseases, suppression of urges, injuries and fear give rise to diseases of the heart. The clinical features are discolouration, fever, fainting, cough, shortness of breath, hiccup, thirst, nausea and vomiting and mental confusion. When vāta prevails, palpitation, wasting, feeling of emptiness in the heart, confusion and tearing sensation may be experienced: the picture in pitta disturbance would consist of burning sensation, heat, fever, yellow discolouration, confusion and anxiety; in the perturbation of vāta, the heart feels obstructed with a heavy sensation, fever, cough, drowsiness and salivation. When worms are the cause of the disease, severe pain and itching would be present.

The formulations that are appropriate in the different manifestations of heart disease are given below:

Formulations	Actions	Remarks
Punarnavā, devadāru, pancamūla etc., ending in kola	Relieves vātaja hṛdroga	Made into decoction in water; oil prepared with it and used for massage
Harītakī, śuṇṭhī, puṣkaramūla etc., ending in hiṅgu	Relieves vātaja lump of abdomen, pain in the heart and sides	Prepared as ghṛta with salt
Puṣkaramūla, śuṇṭhī, śaṭī	Relieves vātaja hṛdroga and severe pain in the heart	Paste mixed with alkali, water, ghee and salt
Puṣkaramūla, bījapūra, palāśa etc., ending in yavakṣāra	Relieves vātaja hṛdroga and severe pain in the heart	Prepared as decoction with salt
Harītakī, śaṭī, puṣkaramūla etc., ending in mātuluṅga	Relieves pain in the heart, sides, abdomen and vaginal passage	Paste fried in oil and ghee; jaggery, salt and wine added

Trikaṭu, two types of triphalā, pāṭhā etc., ending in pṛṣniparṇī	Relieves shortness of breath, cough, pallor, heart disease etc.	Made into a paste and cooked with buffalo's curd; consumed with honey
Madhuka, kaṭurohiṇī	Beneficial in pittaja heart disease	Paste consumed with sugar water
Drākṣa, balā, śreyasī etc., ending in jīvaka	Beneficial in pittaja heart disease	Cooked in buffalo's ghee; and taken with milk
Kaśeruka, śaivāla, śuṇṭhī etc., ending in lotus stem	Beneficial in pittaja heart disease	Made into a paste with ghee and cooked in milk. Taken with honey
Kaṭphala, śuṇṭhī, dāruharidrā etc., ending in ativiṣa	Beneficial in kaphaja heart disease	Boiled in cow's urine
Pippalī, śaṭī, puṣkaramūla etc., ending in śuṇṭhī	Beneficial in kaphaja heart disease	Given as powder
Udumbara, aśvattha, vaṭā and arjuna	Beneficial in kaphaja heart disease	Made into linctus and consumed with trivṛt and trikaṭu
Cyavanaprāśa; agastyaharītakī, braḥma or āmalakī rasāyana	Beneficial in kaphaja heart disease	

In hṛdroga, the patient may complain of pain in the abdomen which worsens on taking food and is relieved by emptying the stomach. He should be given a powder of devadāru, kuṣṭha, tilvaka, two salts, viḍaṅga and ativiṣāa with hot water. On the other hand, if the pain worsens when the stomach is empty, fatty preparations which may be purgative should be given. When the disease is due to worms, all the measures against worms mentioned earlier should be used.

HEAD REGION [4]

HEAD

Lubricant therapy, fomentation, nasal applications or nasya, medicated smoking, diet and poultices are the mainstay of treating head diseases.

The following preparations and formulations are recommended for use.

Formulations	Actions	Remarks
Agurvādya group drugs	Relieves vātaja head diseases	Fried in oil and used for poultice
Rāsnā, laghu pancamūla	Relieves headache	Oil prepared and used for smoking
Balā, madhuka, yaṣṭi etc., ending in śarkarā	Relieves all vāta pitta disorders of head and neck	Cooked in oil along with milk and wild meat: used for nasal application
Bile, gut, stools, beak and feet of peacock; daśamūla, balā, rāsnā etc., ending in madhuka (māyūraghṛta)	Relieves diseases, facial weakness, diseases of ear, eye, nose, mouth and throat	Peacock products made into decoction with herbals; further cooked with ghee, milk and paste of jīvanīya group
Mayūraghṛta cooked further with ghee, milk, and jīvantī, triphalā, medā etc. ending in abhiṣuka (45 plants) (mahāmāyūraghṛta recommended by Ātreya)	Relieves not only head diseases but also other ailments including those of the female genital passage	Plant drugs used as per availability; used for nasal application, message or enema. May also be prepared with parts of rooster, swan and rabbit
Candana, uśīra, madhu yaṣṭi etc., ending in utpala	Relieves pittaja head disease	Ground in milk; rubbed over body and sprinkled with water
Tvakpatra and śarkarā	Relieves pittaja head disease	Paste mixed with rice water and applied as nose drops followed by ghee
Madhuyaṣṭī, candana anantā	Relieves pittaja head disease	Ghee cooked with milk and used as nose drops

Kaphaja head disease calls for a variety of measures such as fomentation, smoking, nasal drops, sharp enema, diet and kapha-relieving pastes. Smoking of sticks prepared with eraṇḍa, nalada, kṣauma etc., cauterisation of temples as well as bloodletting may be necessary when vāta and kapha are perturbed. An appropriate formulation is given below:

Formulation	Action	Remarks
Tvak, dantī, vyāgh ranakha etc., ending in phaṇijjaka	Relieves kaphaja head disease	Cooked in oil with four times sheep's urine in volume: used as nasal drops. Powder could be used as snuff

NOSE[5]

When vāta is perturbed in the head due to the suppression of urges, inhalation of dust or vapour or smoke, change of seasons, too much talk or sleep, exposure to or intake of chilled water, sexual intercourse, a condition known as pratiśyāya or pīnasa (common cold) results. In the vātaja type, it is associated with pain in the nostrils, watery discharge, hoarse voice and headache; in the pittaja type inflamed tip of the nose, fever, dryness of mouth, and yellow nasal discharge; in the kaphaja type loss of appetite, cough, thick discharge, profuse salivation and heaviness. When the condition worsens,

additional symptoms and signs appear such as sneezing, foul smell in the nostrils which may exude purulent and blood stained discharge, disorders of the eye and ear, shortness of breath, cough, fever, internal bleeding and even phthisis. This form of the disease is known as complicated cold (duṣṭa pratiśyāya). In this state, the nose may become dry and the sense of smell may be lost with a foul smell emanating from the mouth. Disturbed vāta moving randomly in the head and touching vital spots gives rise to sneezing. Major features carry special names such as nāsāviśoṣaṇa (dry nose), pratināha (total blockage of the nasal passage by kapha), parisrāva (thick yellow discharge emerging from inside the skull), āpīnasa (inflamed, dry nose with no sense of smell), māmsa (muscle growth blocking the nasal passage and pūyarakta (discharge of blood stained pus from nose, ear or mouth).

The treatment should include meat soup or milk in the diet, the use of medicated smoking with parched gram flour and ghee sandwiched between two earthen plates. Medicated smoke may use sticks made of plants such as śatāhvā, tvak, balā etc., and beeswax, muscle fat and ghee. Fomentation with poultices on the temples and forehead could relieve pain and discomfort in the head. Inhalation of the powder of rohiṣa, jīraka, tārkārī and other plants may reduce sneezing and open blocked air passage. Dryness in the nose should be dealt with by the application of anutaila which was described earlier. The treatment of vātaja disease should, in summary, include non-lubricant enema after anointment, a light diet consisting of meat soup, hot water for bath and drinking, living in a heated, wind-free room, avoidance of physical exertion including sexual intercourse and talk.

In the pittaja type, ghee cooked with bitter herbs and milk boiled with śuṇṭhī should be started initially followed by head evacuation. In the mature state, oil prepared with pāṭhā, haridrā, dāruharidrā etc., should be used for internal application in the nose. In mild cases, light purgatives of the lubricant variety could be beneficial. The diet should include ghee, milk, śāli rice, wheat, meat soup, bitter vegetables, and cold and sour items.

When the nasal disorder is kaphaja in origin, the head should be rubbed with ghee and fomented. When kapha begins to liquefy, emetics such as garlic or trikatu should be given. In severe cases, medicated smoke and inhalation of a powder of realgar, vacā, trikaṭu, viḍaṅga, hiṅgu and guggulu may be helpful. In the presence of a thick, fatty discharge from the nose, mustard oil cooked in cow's urine with a specified group of drugs should be used for nasal irrigation.

As the condition improves, the patient should be subjected to lubricant therapy followed by emesis and maintained on a light diet consisting of medicated soups of vartāka, paṭola, trikaṭu *etc.* When a muscle growth is present, the application of alkali would be necessary.

MOUTH[6]

Diseases of the mouth induced by disturbed vāta are accompanied by dryness, roughness, hardness, migrating pain, discoloured saliva, severe pain, drooping of the mouth and throbbing. When pitta is dominant, thirst, fever, eruptions, burning sensation and inflammation appear. Kapha-borne disturbances are marked by heaviness, whiteness, oiliness, loss of appetite, nausea, indigestion, drowsiness and mild pain. Sannipāta type includes all these symptoms variably.

Disorders of the mouth have been subclassified into sixty-four types in śālākya tantra. The discussion here will be confined to the above four types which broadly cover the subtypes. Several preparations and formulations are listed below:[7]

Preparations/ Formulations	Actions	Remarks
Pippalī, aguru, dāruharidrā bark etc., ending in harītakī	Beneficial for all diseases of the mouth	Powdered and mixed in honey; used as a mouth wash
Tejoḥvā, harītakī, elā etc., ending in kuṣṭha	Cures bleeding, itching and pain	Powdered and used as tooth powder
Pancakola, tālīsa, patra etc., ending in yavakṣāra	Good for throat disorders	Powdered and mixed with old jaggery: made into boluses
Soot, yavakṣāra, pāṭhā etc., ending in citraka (kālaka powder)	Relieves dental and oral disorders	Powdered and mixed with honey
Realgar, yavakṣāra, orpiment etc., ending in dāruharidrā bark (pītaka powder)	Relieves oral and throat disorders– particularly vātaja	Powdered, mixed with honey and suspended in the top layer of ghee: used as gargle
Mṛdvīka, kaṭuka, trikaṭu etc., ending in mustā	Relieves throat disorder, particularly pittaja	Powdered, mixed with the top layer of ghee: used as gargle
Pāṭhā, rasāñjana, murvā, tejohvā	Relieves throat disorder, particularly kaphaja	Powdered and mixed with honey: applied on throat as paint
Kaṭukā, ativiṣa, pāṭhā etc., ending in indrayava	Relieves throat disorders	Boiled in cow's urine and consumed

When there is dryness of palate and thirst, ghee should be taken after meals and as nasal application: the diet should be sweet and cold and provide fatty soups of meat. In the presence of the inflammation of mouth, bloodletting, head evacuation and purgation should be performed in addition to gargling with honey, oil, ghee, milk or urine. Extracts of triphala, pāṭhā, mṛdvīka and tender leaves of jāti mixed with honey are also suitable for gargle.

When mouth disease involves loose and carious teeth, foul smell, jaw stiffness, loss of appetite, discharge from the gums, dryness of the throat and altered voice, khadirādi pills or oil are beneficial.[8]

Formulations	Actions	Remarks
i. Heart wood of khadira and arimeda	Relieves oral and dental disorders	Group i. cooked in water and concentrated
ii. Candana, padmaka, uśīra etc., ending in añjana iii. Lavaṅga, nakha, kākola and jātikośa, camphor (khadirādi guṭikā and oil)		powders of ii. added; when boiled and cooled, iii. added and made into pills; can also be prepared as oil.

The loss of appetite in diseases of the mouth should be managed by suitable gargles, smoking, favourite food and drink, and good company. Gargles can be made from the following formulations.[9]

i. Kuṣṭha, sauvarcala, jīraka etc., ending in biṭa.
ii. Āmalaki, elā, padmaka etc., ending in candana.
iii. Lodhra, tejovatī, harītakī etc., ending in yavakṣāra.
iv. Pomegranate juice with jīraka and śarkarā.
v. Kāravi, marica, jīraka etc., ending in honey.

EAR[10]

Ear disease is marked by ringing in the ears, pain, wax, thin discharge, and dryness when vāta is disturbed; by swelling, redness, burning and yellow discharge when pitta is upset; and by itching, hearing defects, firm swelling, mild pain and thick, white discharge when the disease is kaphaja in origin. The sannipāta type would present a mixed picture.

The treatment of vātaja disorders of the ear consists of a diet compatible with the disturbed doṣa, oil massage and nasal applications. If there is purulent discharge, expert surgical help should be sought. Ear drops are prepared according to the following formulas.[11]

Formulations	Actions	Remarks
Hiṅgu, tumburu, śuṇṭhī	Alleviates ear disorder	Cooked in mustard oil. Used as ear drops
Devadāru, vacā, śuṇṭhī etc., ending in rock salt	Relieves earache	Processed with oil in goat's urine
Cowries: rasāñjana and śuṇṭhī	Relieves earache	Cowries burnt in an earthen pot; ash mixed with oil and paste of herbs
Tender radish, hiṇgu, śuṇṭhī etc., ending in kadalī juice	Relieves deafness,	Dried and burnt to ashes; further processed as directed; used as ear drops

EYE [12]

When disturbed vāta affects the eye, tears diminish, pain of a piercing nature and redness appear in the eyes. The pittaja type has features such as burning sensation, severe pain, redness, yellowish discharge and hot tears. The kaphaja variety is associated with a white deposit, thickish tears, heaviness and itching in the eyes. All these features may be found in the sannipāta illness. There are ninety-six disorders of the eye and their full discussion is given in treatises on śālākya. It is inappropriate to discuss them here as they belong to a different specialty. An outline of treatment is given below:[13]

Formulations	Actions	Remarks
Honey, rock salt, red ochre	Relieves vātaja disease	Ground together and applied
Harītakī	Relieves vātaja disease	Fried in ghee, ground and applied
Bilvādi, eraṇḍa, tarkārī etc., ending in madhuśigru	Relieves vātaja disease	Made into a decoction and used as eye drops
Bṛhatī, root bark of eraṇḍa, śigru flowers, rock salt	Relieves vātaja disease	Ground in goat's milk and shaped as a stick: used to rub
Candana, durvā, manjiṣṭā etc., ending in kālīyaka	Relieves pittaja disease	Made into a paste and applied
Pṛthvikā, dāruharidrā, manjiṣṭā etc., ending in utpala	Relieves diseases due to rakta pitta	Made into a decoction with sugar
Buds of jāti, conch, triphalā etc., ending in balā	Relieves diseases due to rakta pitta	Ground in rainwater and used for irrigation
Gairika, saindhava, mustā	Relieves kaphaja disease	Applied as rasakriyā
Honey, priyangu, realgar	Relieves kaphaja disease	Applied as rasakriyā
Rock salt, triphalā, trikaṭu etc., ending in sarja	Relieves kaphaja disease	Made into a stick and used to rub

Śuṇṭhī, triphalā, mustā etc., ending in vāsā	Relieves kaphaja disease	Warm decoction used as eye drops
Marica, pippalī, samudraphena etc., ending in sauvīrāñjana	Relieves cataract and kaphaja disease	Ground under chitra star; used as collyrium
Guḍūcī, lotus stem, bilva etc., ending in sārivā	Relieves eye disease due to three disturbed doṣas	Boiled in water, made into a decoction and concentrated; further processed with śvēta marica and jāti flowers
Conch, coral, cat's eye etc., ending in śvēta marica	Relieves all eye diseases	Ground and made into a stick
Sauvīrāñjana, tuttha, svarnamākṣika etc., ending in kaṭaka	Improves blurred vision	Made into collyrium or a stick
Kaṭaka fruit, conch, rock salt etc., ending in hen's egg shell (sukhavatī varti)	Improves blurred vision due to cataract, membranous growth (paṭala)	Prepared as a stick
Triphalā, hen's egg shell, kāsīsa etc., ending in samudraphena (dṛṣṭipradā varti)	Restores vision in completely closed eyes	Ground in goat's milk; kept in a copper vessel for a week; rolled into stick
Pippalī, mocarasa, snake's fat etc., ending in old ghee	Relieves all eye diseases	Applied as rasakriyā
Fat of black snake, honey, āmalakī juice	Relieves all eye diseases	Applied as rasakriyā

BALDNESS

Baldness results when the hair roots are burnt by vāta which gets heated by body warmth. When the burn is mild one gets grey hair.[14]

In treating various shades of greying hair, wrinkles or baldness, evacuative measures and medicated snuffs and oils may be used and pastes applied on the head and face.[15] The various formulations for use are mentioned below:

Formulations	Actions	Remarks
Juices of sahacara, bhṛṅgirāja, surasā; paste of yaṣṭi	Reduces greying of hair	Cooked with oil and milk; stored in a sheep horn container encased in a stone vessel
Dugdhikā, karavīra	Reduces greying of hair	Ground with milk and used for nasal application after removing grey hair
Juice of bhṛṅgirāja, paste of madhuka	Reduces greying of hair	Cooked with milk and oil: administered as snuff
i. Roots of ādityavallī and black saireyaka; leaves of surasā, black śana etc., ending in devadāru ii. Pippalī, triphalā, añjana etc., ending in jambū (34 herbal drugs) (mahānīla taila)	Good for eyes and all diseases of head: improves lifespan.	Groups i. and ii. ground, mixed with bibhītaka oil, cooked in āmalakī juice and dried; stored in an iron vessel; usedd as snuff or for application on the scalp
Prapauṇḍarīka, madhuka, pippalī etc., ending in utpala (favoured by Kṛṣnātreya)	Beneficial for all head diseases, specially grey hair	Cooked in oil and āmalakī juice; rubbed on the head
Milk, priyāla, madhuyaṣṭī etc., ending in pippalī	Removes brown hair	Applied as a paste on the face
Sesamum, āmalakī, lotus pollens etc., ending in honey	Stimulates hair growth and blackening of hair	Used as a paste on the scalp
Iron powder	Blackens and softens hair	Boiled in vinegar with rice and rock salt; applied on the scalp overnight; washed off with triphalā solution

HOARSE VOICE [16]

This is caused by the perturbation of individual doṣas, a combination of all doṣas or of blood. For treatment, it should be borne in mind that its appearance in association with cough in phthisis is no different from the treatment of phthisis. The diet should consist of meat soup of peacock, partridge or rooster cooked with pancamūla or mayūra ghṛta.

Vātaja: Ghee should be given following meals and three oils (balā, rāsnā and amrita) used orally: as enema, as gargle or for massage.

Pittaja: The measures employed are the administration of a purgative, milk boiled with jīvanīya drugs, sarpirguḍas mentioned earlier, tikta ghṛta and vāsā ghṛta.

Kaphaja: All evacuative measures, smoking and diet based on barley and pungent additives are appropriate.

Raktaja: The soup of meat of wild animals enriched with ghee and juices of drāksa, vidāri, sugarcane juice, honey and sugar are useful in treatment.

When the three doṣas are perturbed, all the above measures should be used as appropriate, except

bloodletting.

CONCLUSION[17]

Doṣas are the basis for health and ill health. They are to humankind what the air, sun and moon are to earth, capable of upkeep or breakup. Although opposed in natural properties, they do not neutralise each other or harm the body just as the fatal venom in the body spares the snakes.

61 *Numb and Immobile Thighs (Ūrustambha)*

There is an exception to the rule that all disorders respond in varying measures to the five evacuative measures, and that exception is the grave condition when the patient's thighs become numb and immobile.

On eating various incompatible foods, especially when the previous meal is not digested, drinking spoilt wine, sleeping during day and keeping awake at night, suppression of urges and other indiscretions, undigested matter in the gut in association with fat obstructs the passage of wind. This gives rise to kapha accumulation which descends to the thighs through blood vessels and spreads over the thighs and lower legs. As a result the patient loses control over the legs which lose mobility as well. The kapha which lodges in the thighs is responsible for giving rise to varied sensations of heaviness, coldness, pain, numbness, tremor, shortening and impending death. The condition may be preceded by drowsiness, loss of appetite, fever, vomiting and weakness in the legs.[1] Ignorant and untimely application of lubricant therapy under the impression that the disorder is a vātaja disease can aggravate the condition and give rise to numbness and difficulty in raising the legs. Other symptoms would be severe discomfort and pain in the legs, insensitivity to cold, inability to stand or move and a feeling that the legs no longer belong to him but to someone else. At this stage, ūrustambha is no longer curable: the only chance of successful treatment relates to the early stage of illness.

In this condition, the five evacuative measures are useless and should not be administered. Lubricant therapy and enema perturb vāta; cannot dislodge kapha from the thighs. While the elimination of kapha in the stomach and lower bowel can be achieved readily by evacuative measures, the accumulated kapha and half-vitiated rasa of food which gets solidified in the seat of vāta cannot be eliminated in a similar manner.[2] The collection of kapha and āma call for prompt measures for drying up and reducing the mass. A diet consisting of barley, salt-free vegetables, bitters like karavellika etc., is roughening and beneficial. If the patient is emaciated, wild meat and old śāli rice would also be useful.

The therapeutic measures and formulations are discussed below:[3]

Formulations	Actions	Remarks
Samaṅga, mocarasa, bilva	Beneficial in ūrustambha	Consumed with honey
Candana, dhātaki, kuṣṭha etc., ending in nalada	Beneficial in ūrustambha	Consumed with honey
Mustā, harītakī, lodhra etc., ending in tiktarohiṇī	Beneficial in ūrustambha	Consumed as a paste with honey
Devadāru, haridrā, dāru haridrā etc., ending in kaṭurohiṇī	Beneficial in ūrustambha	Consumed as a paste with honey
Pippalī, pippalīmūla, sarala, devadāru	Beneficial in ūrustambha	Consumed as a paste with honey
Cavya, citraka root, devadaru, harītakī	Beneficial in ūrustambha	Consumed as a paste with honey
Bhallātaka, pippali, pippalīmūla	Beneficial in ūrustambha	Consumed as a paste with honey
Śārṅgeṣṭā, madana, dantī etc., ending in kūlaka	Beneficial in ūrustambha	Equal quantities powdered together; consumed with honey
Murva, ativiṣā, kuṣṭha etc., ending in kaṭurohiṇī	Beneficial in ūrustambha	Equal quantities powdered together; consumed with honey
Svarṇaksīrī, ativiṣa, mustā etc., ending in kaṭurohiṇī	Beneficial in ūrustambha	Equal quantities powdered together; consumed with honey
Vāta, vyāghranakha, nāgakesara	Beneficial in ūrustambha	Equal quantities powdered together; consumed with honey
Pīluparṇī, payasya, rāsnā etc., ending in pāṭhā	Beneficial when vāta is disturbed and patient has sleeplessness	Cooked in oil; consumed with honey
Kuṣṭha, srīveṣṭaka, udīcya etc., ending in aśvagandhā	Beneficial in ūrustambha	Cooked in mustārd oil; consumed with honey
Rock salt, śuṇṭhī, pippalīmūla etc., ending in sour gruel	Relieves ūrustambha, and other disorders such as piles, pain along the thigh	Cooked in oil
Oil, curd, sour gruel, pippalīmūla śuṇṭhī (aṣṭakatvara taila)	Relieves ūrustambha	Cooked as per directions

There are also external applications to be used in treating patients with ūrustambha:[4]

Formulations	Actions	Remarks
Earth from ant-hill; root, fruit and bark of karañja; brick powder	Diminishes kapha	Powdered and applied as a paste
Roots of aśvagandhā	Diminishes kapha	Ground and mixed with honey, mustārd and earth from ant-hill; applied as a thick paste
Leaves and fruits of tarkārī, śigru, surasā etc., ending in nimba	Beneficial for ūrustambha	Decoction made with hot water and used for irrigation
Mustard	Beneficial for ūrustambha	Ground and soaked in cow's urine overnight; applied locally
Kuṭaja, surasā, kuṣṭha etc., ending in kuṭheraka	Beneficial for ūrustambha	Mixed with rock salt and curd: used as paint
Śyonāka, khadira, bilva etc., ending in karañja	Beneficial for ūrustambha	Decoction made in hot water; used as irrigant

Along with the use of internal and external formulations, physical exercises should be encouraged. Slow walking over a level ground of gravel and sand early in the morning, swimming in an auspicious river even against the current or in a placid lake, are examples of what the patient should do. All these measures serve to reduce kapha and the disabilities caused by ūrustambha.

62 *Disorders of Perturbed Vāta (Vātavyādhi)*

Vāta is another name for life, strength and sustenance of the body. So long as its course in the body is uninterrupted a person lives for a hundred years in good health. To orchestrate body functions, vāta exists in five forms:[1]

Vāta	Locations	Functions
Prāṇa	Head, chest, throat, mouth, tongue, nose	Spitting, sneezing, belching, breathing, digestion
Udāna	Navel, chest, throat	Speech, energy, strength, physical work, body colour
Samāna	Channels of sweat, doṣas and fluids	Strengthening digestive fire
Vyāna	Entire body	All movements, blinking
Apāna	Testicles, urinary bladder, penis, navel, thighs, groin, anus	Ejection of semen, urine, feces, menstrual blood, fetus

In good health, the five forms of vāta remain in equilibrium with reference to themselves in their respective locations. Out of balance or dislodged from their normal locations, they spell disorders or death. There are numerous causes which derange vāta: a partial list would include inappropriate food, incorrect treatment of illness, excessive sleep or wakefuLness, sexual excess, too much physical activity or exertion, fasting due to emotional upheaval, suppression of urges and major injuries. The perturbed vāta occupies body channels and gives rise to localised or general disorders.[2]

CLINICAL FEATURES[3]

Perturbed vāta produces diverse symptoms, which include stiff joints, delirium, sleeplessness, dehydration, abortion, numbness, convulsion, lameness, pulsations and several others. According to the cause and location of perturbation, vāta also produces specific disorders. The following table is illustrative.

Location of perturbation	Disorders
Bowels	Retention of feces and urine, external dislocation of bowels (bradhna), heart disease, gaseous abdominal lumps, piles
General	Pain in all extremities, shivering, joint pains
Anus	Retention of wind, feces and urine, abdominal distension, colic, urinary stone and gravel, wasting of hips and legs
Stomach	Pain in the heart, navel, sides, abdomen; diarrhea, belching, drying up of mouth, shortness of breath
Lower bowel	Gurgling in the abdomen and distension; colic, constipation, difficulty in passing stools and urine
Sense organs	Loss of sensation
Skin	Roughening and cracking of skin, numbness, pain, redness
Blood	Pain with heat, discolouration, loss of appetite, emaciation, rash
Muscle and fat	Heaviness in organs, severe pain as if being thrashed, exhaustion

Bone and marrow	Pain in bone and joints, loss of weight and strength, loss of sleep
Semen	Premature ejaculation or retention of semen, fetal anomalies
Tendons and ligaments (snāyu)	Abnormal body postures, cramps
Blood vessels (sira)	Contraction/dilatation with pulsation, stasis, slowing of body movement
Joints	Pain on movement; swelling
One half of the body (ardita) or face	Shrivelling of the hand, leg, knee and shortening; reduction in blood; face, nose, eyebrows, eyes, jaws become distorted, food in the mouth loses direction, tongue becomes crooked on trying to raise, voice becomes weak, teeth loosen, hearing weakens, pain in several body parts
Sides of the neck (antarāyāma)	Stiffness, neck is deformed bending forwards, grinding of teeth, salivation, jaw stiffness
Back of the neck (bahirāyāma) (dhanustambha)	Body bends forwards, head backwards, chest gets lifted off the ground, neck stiffens, grinding of teeth, salivation, absence of speech, restlessness, death
Root of the jaw (hanugraha)	Jaws out of joint, joints stiff, mouth remains closed; no pain
Body (ākṣepaka)	Frequent convulsions by drying up of extremities, ligaments, tendons and blood vessels
Body (daṇḍaka)	Body becomes ramrod stiff; head, hands, feet, back and hips involved
One foot or hand (ekāṅgaroga)	Pain, shortening and fixed deformity of one foot or hand
All limbs (sarvāṅga roga)	Pain, fixed deformities, shortening of all limbs
One half of the body (transient version of ardita)	The loss of movement and speech and pain of either side is transient; patient then feels normal

MIXED TYPES

In practice, the disturbance of vāta may not occur in isolation and may be accompanied by the perturbation of other doṣas. An example is gṛdhrasī where the pain starts in the waist and radiates to the hip, thigh, knee, calf and foot, and is associated with stiffness and severe discomfort. These obviously result from the disturbance of vāta but the association of kapha adds drowsiness and heaviness to the clinical features of gṛdhrasī. This is not surprising because vāta is subtle and pervasive and is perturbed or hindered by the debilitation of tissues and the blockage of channels by doṣas. When hindered, vāta provokes the other doṣas and carries them here and there to produce far-flung symptoms of diseases. The clinical manifestations which result when vāta is hindered by other doṣas and dhatus are listed below so that physicians could infer the particular doṣa disturbance in a clinical context from observing a given set of symptoms and signs.[4]

Vāta hindered by	Clinical features
Pitta	Burning sensation, pain, thirst, dizziness, desire for cold things, seeing darkness
Kapha	Coldness, heaviness, pain, desire to avoid food, or eat rough or hot items
Blood	Burning sensation; the layer between the skin and muscle becomes red and swollen; rashes appear
Muscle	Swelling, goose-flesh, feeling of ants crawling over the body, hard boils of varied colours
Fat	Fatty, soft, cold and mobile swellings over the body, loss of appetite (prognosis is poor)
Bone	Breaking pain or pain as if pierced by needles, general discomfort, preference for hot applications and rubbing
Marrow	Hunchback, yawning, cramps and pain relieved by pressure with hands
Semen	Sterility
Food	Pain in the abdomen on eating; relieved when stomach is emptied
Urine	Retention of urine and distension of the bladder
Feces	Severe constipation, severe pain in hip, groins and back, wind moves upwards, heart ailment

Many of these mixed types which exhibit weakness on one side, wasting of body parts, lockjaw, dislocation of joints, hunchback and those involving bone and marrow in particular, are hard to cure. The only favourable factors for treatment are recent onset, good strength, and lack of complications.[5]

TREATMENT

VĀTA PERTURBED ALONE[6]

When vāta alone is perturbed, the treatment should mainly consist of lubricant therapy by the administration of ghee, muscle fat, oil and marrow. If the diet becomes tiresome, it should be temporarily interrupted to give milk, vegetable or bird meat soup before resuming lubricant therapy. Oil massage and fomentation are beneficial and may produce remarkable improvement in mobilising a stiff and deformed limb. Lubricant therapy also improves strength, appetite and digestion.

When the lubricant therapy is not effective, mild purgatives such as ghrta prepared with tilvaka or castor oil with milk should be given. This helps in the elimination of incompatible food which had accumulated and hindered the movement of vāta. If the patient is too weak to take purgatives, non-lubricant enema and appetising food should be given. When his condition shows improvement, lubricant therapy and fomentation are in order. Sweet, sour and salty articles in food, medicated snuff and smoke are also beneficial.

LOCALISED DISORDER [7]

The clues to treating the localised disturbance of vāta are indicated below:

Location of vāta disturbance	**Clues to treatment**
Gut	Alkali, sour foods, appetisers
Anus, rectum, lower bowel	Measures against udāvarta
Stomach	Evacuation first, followed by other measures
Body	Massage, both types of enemas
One half of body (pakṣāghāta)	Fomentation, lubricant therapy and purgation
Skin	Massage, fomentation, bath
Blood	Cold applications, purgation, bloodletting

Muscle and fat	Non-lubricant enema
Bone and marrow	Lubricant therapy by mouth and externally
Semen (obstruction)	Purgative, semen-promoting drugs and diet
Poor fetal growth	Milk with sugar, kāśmarya and madhuka
Heart	Milk boiled with śalaparṇī
Umbilical area	Fish cooked with tender bilva fruits
Stiffness	Poultices with vāta-relieving drugs
Rigidity and deformity of joints	Oil cooked in blackgram and rock salt for massage
Arms and head	Medicated snuff, ghee after meal
Below navel	Enema, snuff
Weakness of face	Snuff, rubbing oil on scalp, rich diet, fomentation and application of poultice
Gṛdhrasī	Venesection in the ankle, cauterisation
Muscle cramps (khallī)	Hot poultice of rice cooked in milk/pulse or meat cooked with oil and ghee
Lockjaw (open)	Fomentation, manual replacement by pressure with thumb and index fingers of the physician

LOCAL APPLICATIONS AND DIET [8]

The following items find a place as local applications and as part of the menu for those with vātaja disorder.

- Soups prepared with goat's head/meat of aquatic, marshy or carnivorous animals, decoction of balā, pancamūla, sour curd, trikaṭu and salt.
- Meat of aquatic animals, daśamūla, śatāvarī, kulattha etc., ending in balā, treated with fat, sour curd, sour gruel in an earthen pot. A paste of this preparation should be used for intake and as poultice and for massage.
- Mustā, yeast, sesamum etc., ending in tagara cooked with curd, milk and four fats: used as poultice.
- Utkārikā, veśavāra, milk, etc., ending in pancamūla. These are mixed with a lubricant substance, painted over the affected part and bandaged with castor leaves overnight. Process repeated as per stipulations.
- Pastes and poultices are made by grinding oil seeds with souring agents and cooled before use. Rice cooked in milk or with pulse and with fatty additives are also beneficial.

FORMULATIONS FOR SETTLING VĀTAJA DISORDERS[9]

Formulations	Actions	Remarks
i. Daśamūla, yava, kola and kulattha from ii. Jīvanīya drugs, paste of śarkarā, kharjura etc., ending in phalgu	Relieves all vātaja disorders	Decoction made and concentrated in water i.; cooked with the group ii. with milk and ghee; used orally, as enema or for external use
Citraka, śuṇṭhī, rāsnā etc., ending in śaṭī	Relieves vātaja disorders	Made into a paste with ghee
Balā, bilva	Relieves vātaja disorders of the head	The top layer of ghee cooked in milk and boiled with the drugs; used for nasal inhalation
i. Bones of aquatic animals ii. Decoction of daśamūla, paste of jīvaka, ṛṣabha,	Effectively relieves vāta disturbed in blood vessels, bones, joints and gut	Group i. crushed and cooked in water; fat extracted and cooked with the decoction and paste ii. with milk and

asphota etc., ending vāta-relieving and jīvanīya drugs		ghee. Used for nasal inhalation enema, massage and ingestion
Triphalā, horsegram, śobhanjana bark etc., ending in daśamūla (mahāsneha)	Effectively relieves vātaja disturbance in blood vessels, marrow and bone. Also beneficial for general manifestations such as convulsions	Boiled in water and concentrated; cooked with urine, sour gruel, several other ingredients as per directions
Leaves of nirgundi	Beneficial for vātaja disorders, leprosy and other skin diseases	Juice cooked with equal quantity of oil
Karpasa seeds, horse gram	Relieves vātaja disorders	Oil cooked in the decoction
i. Juice of radish. ii. Madhuyaṣṭī, śarkarā, rāsnā etc., ending in śuṇṭhī	Relieves vātaja disorders	Juice of i. mixed with milk and curd and preserved for three days; cooked with paste of ii. used orally and topically
Old oil cake	Relieves many vātaja disorders	Boiled in the decoction pancamūla; used with cooking oil and milk
Barley, jujube, horse-gram etc., ending in bilva	Used in winter for vātika disorders	Decoction cooked with oil and paste of sour fruits

OIL FORMULATIONS [10]

Oils are effective, harmless and capable of relieving all doṣas. They are especially beneficial in settling vātaja disorders and can be administered by mouth and for massage, enema and nasal inhalation. A list of oil formulations is given below:

Formulations	Actions	Remarks
Juice of sahacara and paste of its root	Relieves all vātaja disorders	Cooked with oil and milk; sarkara powder dissolved

Juice of gokṣurā, śuṇṭhī, jaggery	Relieves all vātaja disorders	Cooked with oil and milk
i. Balā, guḍūcī, rāsna ii. Water from curd, sugarcane juice, vinegar, goat's milk. iii. Śaṭī, devādaru, elā etc., ending in nāgakeśara. (Balātaila favoured by Kṛṣṇātreya)	Relieves shortness of breath, cough, wasting, phthisis, epilepsy and various vātaja disorders	Decoction of i. concentrated and mixed with ii. and paste of iii. Aromatic leaves added after it is cooked; made and used as per stipulations
i. Guḍūcī ii. Elā, māmsī, tagara etc., ending in madhūka (amṛtā taila advised by Kṛṣṇātreya)	Effective remedy for vātaja and several other illnesses including insanity and epilepsy	Group i. boiled in water and concentrated; cooked in oil with milk and paste of ii.
i. Rāsnamṛtā taila ii. Aromatic plants of Himālayas iii. Drugs mentioned in ii. of amṛtā taila (rāsnā taila)	Relieves vātaja disorders	Oil cooked with decoction of rāsnā and paste of ii. and iii.
i. Juice of radish, milk, sour curd and sour gruel ii. Balā, citraka, rock salt etc., ending in devadāru (mūlakādya taila)	Subdues severe vātaja disorders	Group i. cooked with oil and a paste of ii.
Vāsā root, guḍūcī, citraka, aśvagandhā (vṛṣamūlādi taila)	Controls severe vātaja disorders	Cooked with oil and milk
Rāsnā, śirīṣa, madhuyaṣṭī etc., ending in gokṣurā (mūlaka taila)	Relieves a variety of ailments including retention of urine, shortness of breath, splenic enlargement etc.	Decoction cooked in oil with the paste of sarvagandha group, curd, sour gruel, liquefied horse-gram, radish and sugarcane juices
Garlic juice	Relieves vātaja disorders, female sterility	Oil prepared with garlic juice and the drugs of mūlaka taila

Oils are the best treatment for vātaja disorders. Repeated processing with drugs enhances its efficacy. Cooked a hundred or thousand times, it becomes capable of removing blocks in the smallest channels in the body.

FORMULATIONS FOR MIXED TYPE OF PERTURBATION [11]

When the course of vāta is hindered by pitta, the alternate application of hot and cold, and ghṛta of jīvanīya group is advisable. Other desirable items in the diet are soup of wild meat, śāli rice, purgation, milk boiled with balā and pancamūla and application of oils such as madhuyaṣṭī.

When the passage of vāta is obstructed by kapha, barley, meat of wild animals and birds, fomentation, non-lubricant enema, evacuative measures and oil of sesamum should be given. If pitta and kapha are combined, the management of pitta should receive priority.

The clues to treating conditions which arise from the hindrance to the course of vāta by various

dhatus are given below:

Vāta hindered by	Clues to treatment
Blood	Same as for the treatment of vāta rakta
Muscle	Fomentation, massage, meat soup, milk and lubricant substances
Bone and marrow	Mahāsneha
Semen	Mentioned earlier in this chapter
Food	Emetic; following emesis, light and appetising diet
Urine	Drugs which increase urine flow, fomentation, urethral irrigation
Feces	Castor oil; lubricant measures used in udāvarta are beneficial

WRAPPING (ĀVARAṆA)[12]

WRAPPING AMONG THEMSELVES

The five vātas may wrap each other among themselves during perturbation and give rise to twenty clinical manifestations. They are partly listed below:

Types of wrapping	Clinical features/Clues to management
1 . Vyāna by prāṇa	Dulling of senses, waning of memory and intellect, reduction in strength. Managed like other head disorders
2. Prāṇa by vyāna	Perspiration, numbness, skin disease, goose-flesh. Lubricant purgatives

3. Samāna by prāṇa	Stuttering , stupor, dumbness. Lubricants given orally and used for massage, nasal application and enema
4. Prāṇa by samāna	Abdominal disorders; pain in the sides, stomach; ghee prepared with appetisers beneficial
5. Udāna by prāṇa	Difficulty in breathing; congestion in the nose; heaviness of the head; dry mouth; heart disease. Treatment same as for head diseases
5. Prāṇa by udāna	Inactivity, loss of strength, colour and resistance to diseases; may be fatal. Sprinkle cold water and reassure
7. Apāna by prāṇa	Vomiting, shortness of breath. Enema and digestive diet to be given
8. Prāṇa by apāna	Loss of appetite, diarrhea, confusion. Emetics followed by an astringent diet
9. Apāna by vyāna	Abdominal distension, nausea and vomiting, udāvarta, pain. Lubricant therapy
10. Vyāna by apāna	Large volume of stool, urine and semen. Astringent diet and therapy
11. Vyāna by samāna	Fainting, drowsiness, loss of appetite and strength, delirium. Light meals, physical exercise
12. Vyāna by udāna	Rigidity, indigestion, loss of sweating, inactivity, inability to close eyes. Agreeable food in optimal quantity

In a similar manner, the remaining types of wrapping among five vatas out of a total of twenty should be recognised by physicians and appropriate treatment prescribed. The aim of treatment is to redirect the wind in the appropriate direction - udāna upwards, apāna downwards, samāna in the middle and vyāna in all directions. Of all winds, prā ṇa is vital and deserves priority in righting its course.

INTEREFERENCE BY DOṣAS AND DHāTUS [13]

The course of vāta can be hindered by doṣas and dhātus, which are listed below:

Vāta hindered	**Clinical features**
Prā ṇa by pitta	Burning sensation, giddiness, pain, vomiting undigested food, preference for cold
Prā ṇa by kapha	Sneezing, spitting, belching, loss of appetite, vomiting, cough
Udāna by pitta	Burning sensation in the navel region and chest; tiredness; fainting
Udāna by kapha	Discolouration, halting speech, weakness, loss of appetite, feeling of heaviness
Samāna by pitta	Perspiration, thirst, burning sensation, restlessness, fainting
Samāna by kapha	Absence of sweating, indigestion, goose-flesh, coldness of body
Vyāna by kapha	Body heaviness, pain in bone and joints, limited movement
Apāna by pitta	Yellow colour of urine and stool, burning sensation in anus and urethral opening, profuse menstrual flow
Apāna by kapha	Stools in broken bits, with mucus and sensation of heaviness

If the respective place of each vāta is occupied by pitta or kapha, a mixed type occurs with various

disorders. Life and strength depend upon prāṇa and udāna and therefore, their obstruction by pitta and kapha should be recognised as a serious disorder. If their diagnosis and management are delayed by more than a year they become incurable. The treatment involves procedures such as lubricant substances which relieve vāta disturbance, enemas, purgatives, rasāyanas and an appetising diet. The exact choice for the patient's regimen should be made by the physician after thorough consideration.[14]

63 *Disorders of Perturbed Vāta and Blood (Vātaśoṇita)*

CLINICAL FEATURES AND TYPES

The combined perturbation of vāta and blood resembles the combination of wind and fire. Uncooked or excessively flavoured articles of food, meat of aquatic animals and other items including various lentils in excess, eating during indigestion, day sleep and night vigil, eating too much, lack of physical activity, injuries, long and fast journeys, suppression of natural urges are some of the causes which perturb blood and hinder the free passage of vāta. This in turn leads to the perturbation of the entire bloodstream, which may manifest initially as severely painful joints of hands and feet. In the later stages it spreads over the body. The patient may present premonitory signs and symptoms such as sweating, numbness, malaise, pain, abscesses, itching in the lower extremities, instability of joints and discolouration, and insensitive patches.[1]

The combined disturbance of vāta and blood has two kinds of presentations: superficial and deep. The superficial variety is confined to the skin and muscle and is marked by black, red or brown discolouration, piercing pain, shivering and shrinking. The deep variety displays a hard, tense and painful swelling with burning sensation and black or brown discolouration. It is also associated with shivering and discomfort in the stomach. The patient would have severe pain in the bones, joints and marrow with deformity and pain on movement. Sometimes both the superficial and deep varieties may be combined.

TYPES ACCORDING TO THE DISTURBANCE OF DOṢAS

The combined disturbance of vāta and blood can also be classified according to the perturbation of doṣas. In the pittaja variety, the notable features are prominent vessels, severe pain, tremor, roughness, blackish discolouration, dislike of cold, and painful shortening of fingers and joints with stiffness. When blood disturbance is dominant, severely painful swelling, coppery discolouration and pricking sensation are present, which do not respond to lubricant or roughening measures. The pittaja version is characterised by a burning sensation following meals, pain, sweating, drowsiness and giddiness, redness and loss of consciousness. In the kaphaja type, the patient would complain of heaviness, numbness, slight pain and a feeling of being wet. In certain patients two or three doṣas would be disturbed and the clinical presentation would be mixed.

TREATMENT

General[2]

When vāta obstructs the flow of blood and involves the joints of extremities with severe pain, the patient's life may be in danger. In such a situation bloodletting by leeches or horn, or scarification may be advisable. Bloodletting has a role in the presence of severe distress, numbness, burning sensation and redness or the shifting of distress from one part of the body to another. However bloodletting should not be done if the patient is already reduced or swollen or has developed fixed deformities. Before bloodletting, mild purgation or enemas would be beneficial.

Diet[3]

The patient should stick to a regimen which abjures sleep during the day, sexual intercourse and too much physical activity. The diet should consist of old barley or wheat, navara or śāli rice and soup of bird meat. Soup of lentils, bengal gram and peas with ghee is especially beneficial. Those who prefer vegetables should be given fare such as kākamācī, śatāvarī and sauvarcalā fried in ghee. For others meat soup should be prepared with the meat of cow, buffalo or goat.

Physical procedures

The external type of the disorder calls for the application of paste, massage, irrigation, and poultice while the deep variety should be dealt with by purgation, enema and the ingestion of lubricant substances. When vāta is the primary seat of disturbance, ingestion of the four fats, enema and poultices are the major elements of therapy; in pittaja type, purgatives, enema, ingestion of milk and ghee, irrigations and administration of cold substances; and in the kapha variety, gentle emesis, irrigation and the rubbing of warm pastes. In all situations the choice of particular measures should be guided by the strength of the patient and the nature of illness.

Formulations[4]

The following list consists of many formulations used for treating the combined disorders of vāta and blood.

Formulations	Actions	Remarks
Śrāvaṇī, kṣīra-kākolī, jīvaka etc., ending in madhūka	Relieves vāta-blood disorders	Ghee cooked with the herbs is used
Balā, atibalā, medā etc., ending in ṛddhī	Relieves vāta-blood disorders and several other diseases	Ground into paste and cooked in milk and ghee
i. Tryāmāna, āmalakī, kākolī etc., ending in kaśeruka ii. Parūṣaka, drākṣa, kāśmarya etc., ending in vidārī (parūṣaka ghṛta)	Relieves vāta-blood disorders and several other diseases	Ghee cooked with the paste and decoction of the drugs i. cooked with juices ii. and milk
i. Two pancamūlas, varsābhū, eraṇḍa etc., ending in atibalā ii. Milk, āmalakī and sugarcane juices, goat's meat soup iii. Medā, mahāmedā, kāśmarya fruits etc., ending in abhiṣuka (jīvanīya ghṛta)	Relives vāta-blood disorders and numerous others; also promotes health, longevity and fertility	i. Boiled in water and concentrated; cooked further with ii. and iii. with ghee. Honey added and preserved
Jīraka, ṛṣabha, medā etc., ending in	Relieves vāta-blood and vātaja disorders	Decoction and paste of the drugs, ghee and oil
pāṣaṇabheda		cooked with milk. Add if possible, marrow of birds
i. Śālaparṇī, gokṣurā, bṛhatī etc., ending in atibalā. ii. Meda, śatāvarī, madhuyaṣṭī etc., ending in ṛṣabha	Beneficial for vāta-blood disorders caused by three doṣas.	Oil and ghee cooked separately with decoction of i., milk and paste of ii. Mixed with milk, sugar and stirred well
Śālaparṇī	Beneficial for vāta-blood and vātaja disorders	Milk boiled with it and consumed with sugar
Trivṛt powder	Given when vāta is hindered by pitta and blood	Fresh milk with the powder or cow's urine
Kāśmarya fruit, trivṛt, drākṣa etc., ending in parūṣaka	Given when vāta is hindered by pitta and blood	Decoction with salt and honey added: has purgative effect
Triphalā, or āmalakī, haridrā and mustā	Given when vāta hindered by kapha	Decoction consumed with honey

In treating disorders due to the combined perturbation of vāta and blood, the large bowel should be kept clear by giving enemas of milk, or other lubricant and non-lubricant formulas. Indeed, enemas play a key role in the treatment as the following list of oils would illustrate.

Formulations	Actions	Remarks
i. Madhuka ii. Śatapuṣpā, śatāvarī, murvā etc., ending in vitunnaka (madhuparṇyādi taila)	Removes disorders of vāta, blood; fever and several other diseases: promotes strength	i. Cooked in water and concentrated; decoction cooked with milk and paste of group ii.
i. Madhuka, drākṣa, kharjūra etc., ending in kāśmarya fruits ii. Āmalakī, kāṣmarya, vidārī, sugarcane iii. Kadamba, āmalakī, akṣoṭa etc., ending in jīvanīya drugs (sukumāraka taila)	Removes disorders of vāta, blood; fever and several other diseases: promotes strength	Group i. boiled in water and concentrated; cooked in oil and juices of ii.; cooked further with milk and paste of iii. Honey added before use as nasal inhalant, enema, and for rubbing and ingestion
i. Guḍūcī, madhuka, laghu pancamūla etc., ending in jīvanīya drugs ii. Balā, kola, bilva etc., ending in kāśmarya fruit iii. Candana, uśīra, nāgakeśara etc., ending in manjiṣṭā (amṛtādya taila)	Relieves disorders due to the perturbation of vāta, blood; convulsions; several other diseases; promotes fracture healing and general strength	Groups i. and ii. dried, crushed, boiled in water and concentrated; oil, milk and paste of iii. added and cooked again
i. Padmaka, vetasa, madhuyaṣṭi etc., ending in kimśuka ii. Lodhra, kālīyaka, uśīra etc., ending in manjiṣṭa (mahāpadmaka taila)	Relieves disorders of vāta and blood and fever	Decoction of group i. cooked with oil, vinegar and paste of ii.
i. Padmaka, uśīra, madhuyaṣṭī, haridrā ii. Sarja, manjiṣṭa, vīra etc., ending in candana (khuḍḍāka padmaka taila)	Relieves disorders of vāta and blood and fever	Decoction of i. cooked with oil and paste of group ii.
Madhuka(madhuka taila śatapākam)	Relieves disorders of vāta and blood and several other maladies such as pallor, jaundice, cellulitis and heart diseases	Oil cooked with paste and four times milk; repeated a hundred
Balā (balā taila satapākam or sahasrapākam)	Relieves vātaja disorders; excellent tonic and remedy or many other disorders	Decoction and paste cooked with equal quantity of milk hundred or thousand times
Beeswax, manjiṣṭa, sarjarasa, sārivā (piṇḍa taila)	Relieves pain due to vātaja disorders	Oil processed with the drugs and used for massage

Formulations for external applications in pitta and rakta disorders are as follows:[5]

Formulations	Actions	Remarks
Milk boiled with daśāmula	Relieves pain	For irrigation
Four fats, sweet herbs	Relieves pain, stiffness and convulsions	Cooked together; irrigate warm or cold
Milk of cow, goat or sheep, oil, jīvanīya herbs	Relieves pain, stiffness and convulsions	Processed together with the decoction of jīvanīya group for irrigation
Flowers of kumuda, utpala, lotus, necklace of precious stones, candana	Soothes burning sensation	Immersed in water; used for irrigation
Madhuka, aśvattha bark, māmsī etc., ending in durvā	Relieves burning with redness	Paste applied after bloodletting
Barley powder, madhuyaṣṭī, milk and ghee	Relieves pain and redness	Mixed together
Sesamum, priyāla, madhuka etc., ending in vetasa root	Relieves pain and redness	Ground in goat's milk; applied as paste
Prapauṇḍarika, manjiṣṭa, dāruharidrā etc., ending in padmaka	Relieves pain, burning, redness, swelling and cellulitis	Ground into a paste

Some formulations for external application in vātaja disorders are given below:[6]

Formulations	Actions	Remarks
Rice cooked with pulses, greengram cooked in milk	Relieves pain	Prepared with vāta-relieving drugs; used with fatty additives as poultice
Meat of aquatic animals; jīvanīya group	Relieves pain, stiffness, swelling, limitation of movement	Vasavāra preparations cooked with drugs; used with fatty additives as poultice
Ghee, sahacara root, goat's milk	Relieves pain, stiffness, swelling, limitation of movement	Ground into a paste for rubbing
i. Four fats (marrow of the groups from marshy animals or birds) ii. Eraṇḍa, jīvanīya group, milk of cow and goat iii. Haridrā, utpala, kuṣṭha etc., ending in kukubha flowers	Beneficial in bodyache, joint disorders, fractures and dislocations	Group i. cooked with a decoction of eraṇḍa and other members of ii. and paste of iii. When cooked, beeswax added

Formulations for external application in kaphaja disorders:[7]

Formulations	Actions	Remarks
Padmaka, tvak, madhuka and sārivā	Relieves itching, heaviness and pain of kaphaja disorders	Ghee cooked with the drugs and a vinegar preparation; for irrigation and massage
Mustard, nimba, arka etc. ending in sesamum	Relieves itching, heaviness and pain of kaphaja disorders	Made into a paste
Soot, vacā, kuṣṭha etc, ending in dāruharidrā	Relieves pain in disorders of blood associated with vāta and kapha	Made into a paste
Tagara, tvak, satāhvā etc, ending in vyāghranakha	Relieves pain in disorders of blood associated with vāta and kapha	Ground in sour liquid and used as a paste
Triphala, trikaṭu, patra etc. ending in cavya	Relieves pain in all disorders due to vāta-blood perturbation	Ground into a paste and applied on an iron vessel in the morning; ingested in the afternoon. Dietary restrictions to be followed

None but a wise physician who can reason and make the proper choice in terms of the patient's strength, perturbation of doṣas and its variations is competent to use the above formulations effectively. When vāta is disturbed and passage blocked by accumulation of kapha and fat, for example, lubricant therapy and bulking measures should not be used unthinkingly. Instead, kapha and fat should be reduced with physical activity, ingestion of ariṣṭa and wine, purgation and intake of buttermilk and harītakī.

In the deep type of disorder due to the combined disturbance of vāta and blood, the initial therapeutic attention should be directed to vāta, followed by the above measures to settle their combined effects.

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DISORDERS OF THE FEMALE GENITAL ORGANS

TYPES

There are twenty disorders which arise from unsound conduct, menstrual dysfunction, faulty ovum and fate. Those due to unsound conduct in relation to diet and lifestyle develop disorders due to the perturbation of the doṣas. The clinical features of the twenty disorders are mentioned below:[1]

1.Vātaja	Feeling of ants crawling over the body, numbness in the genital passage, pain and stiffness, frothy, thin and rough discharge
2.Pittaja	Burning sensation, fever, foul-smelling, hot and profuse discharge
3.Kaphaja	Itching, cold and slimy genital passage, discomfort, pale and viscous discharge
4.Sannipāta	The entire genital passage and uterus are involved; burning sensation, pain, white and thick discharge
5.Sāsṛja	Bleeding continues after conception due to the disturbance of menstrual blood by pitta (pitta)
6.Arajaska	Emaciation and discolouration due to pitta in the genital passage and uterus affecting blood (pitta)
7.Acaraṇā	Excessive libido due to itching which arises from poor hygiene (vāta)
8.Aticaraṇā	Swelling, numbness and pain in genitalia due to intensive intercourse (vāta)
9.Prākcaraṇā	Pain in the rear, waist, thighs and groins in a minor girl due to sexual intercourse (vāta)
10. Upaplutā	Painful discharge of white mucus during pregnancy (vāta and kapha)

ll. Pariplutā	Pain in the lower abdomen, back and groins; genital tract becomes swollen, and painful, menstrual discharge takes on yellow or bluish discolouration (vāta and pitta)
12. Udavartiṇī	Pain and difficulty in passing menstrual blood, relief on its passage (vāta)
13. Karṇinī	Prolapse with obstructed menstrual flow due to out-of-turn straining during labour (vāta and kapha)
14. Putraghnī	Repeated fetal loss due to infirmity in the menstrual blood (vāta)
15.Antarmukhī	Severe pain in the genital passage and difficulty in intercourse (vāta)
16. Sūcīmukhi	Narrow opening of the genital passage arising from genetic defect on the mother's side (vāta)
17. Śuṣkayōni	Dryness of genital passage with retention of urine and feces (vāta)
18.Vāminī	Semen flows out without pain from the uterus after six or seven days of intercourse (vāta and pitta)
19. Ṣaṇḍhi	Absence of breasts and loathing of men
20. Mahāyoni	Genital passage becomes wide and patulous with fleshy growth, frothy discharge, pain in the joints and groins (vāta)

In the twenty types mentioned, the woman would be unable to retain semen and conceive. They are also associated with gaseous abdominal lumps, piles and other symptoms.

TREATMENT

GENERAL[2]

All patients should be administered evacuative measures after lubricant therapy and fomentation. Following this, specific treatment appropriate to each patient should be given. In the vātaja type of illness, vāta-relieving steps should be taken including fomentation with meat of aquatic animals and anti-vāta drugs. Alternatively, she should be massaged with oil treated with salt and then subjected to fomentation. The pittaja illness calls for cold measures whereas the kaphaja variety requires rough and hot mode of treatment.

If the genital passage has come out it should be replaced after lubrication and fomentation. The narrowed opening should be dilated and the patulous opening massaged to induce contraction. If totally displaced, the genital passage behaves like a foreign body.

PREPARATIONS/FORMULATIONS FOR DOṢA-INDUCED DISORDERS [3]

Vātaja disorders

Formulations/ Preparations	Actions	Remarks
i. Balā ii. Śālaparṇī, payasyā, jīvanti etc., ending in kākanāsā	Relieves vātaja and pittaja disorders	Ghee and oil cooked with decoction of i. and paste of ii. and milk
Kāśmarya, triphalā, drākṣa etc., ending in guḍūcī	Good remedy for vātaja disorders; promotes fertility	Ghee cooked with drugs

Pippalī, upakuñcikā, jīraka etc., ending in citraka	Relieves pain in the genital tract, piles, heart disease, abdominal lumps	Ground and fried in ghee, given with wine
Vṛkṣaka, mātuluṅga root, madayantika etc., ending in upakuñcikā	Relieves vātaja disorders	Ground and consumed with salted wine
Rāsnā, gokṣurā, vṛkṣaka	Relieves pain	Milk boiled with the drugs and consumed
Rock salt, tagara, kuṣṭha etc., ending in devadāru	Relieves pain	Oil cooked with paste of the drugs and applied in the genital passage
Guḍūcī, jāti, rāsnā etc., ending in yūthikā	Relieves vātaja disorders	Oil cooked with paste of the drugs, cow's urine and milk; used to fill genital passage; can be used for massage and irrigation

Pittaja disorders[4]

i. Śatāvarī root ii. Jīvanīya group, śatāvarī, grapes etc., ending in madhuka (Bṛhat śatāvarī ghṛta)	Corrects pittaja disorders and many other disorders	Juice of i. cooked with milk and ghee and paste of ii. When ready, honey, pippalī and sugar added; taken orally
Jīvanīya group of drugs	Relieves pittaja disorders	Ghee processed with their paste

Kaphaja disorders[5]

Hog's bile	Cleanses the passage in kaphaja disorder	Cloth soaked in it used as an insert in the genital passage
Barley powder, rock salt, arka latex	Cleanses the passage in kaphaja disorder	Cloth soaked in the preparation used as insert followed by wash with warm water
Pippalī, marica, māṣa etc., ending in rock salt	Cleanses the passage in kaphaja disorder	Cloth insert of the size of index finger made after soaking in the preparation, and applied in the genital passage

OTHER PREPARATIONS AND FORMULATIONS[6] (MAINLY LOCAL APPLICATIONS)

Formulations/ Preparations	Actions	Remarks
i. Tender fruits of udumbara, pañcavalkala, kūlaka etc., ending in nimba ii. Lac, dhava, palāśa, mocarasa	Cleanses chronically rigid and dilated passage and promotes fertility	Group i. soaked in water overnight; oil cooked with this liquid and paste of ii. Inserted into the genital passage with cloth plug
Dhātaki, āmalakī leaves, srotāñjana etc., ending in udumbara	Clears slimy discharge, vipluta and upaplutā	Paste cooked with oil and goat's urine and milk, used as insert with cloth plug; massage and lubricant enema to follow
Kāsīsa, dhava, nimba etc., ending in grapes	Stops discharge	Decoction mixed with vinegar; used for irrigation
Triphalā		Decoction mixed with buttermilk, cow's urine and sukta; used as irrigant
Sesamum powder, curd, ghee, sugar syrup, muscle fat	Stops bleeding from genital passage	Mixed with honey and consumed (vāta asṛgdara)
Hog's flesh juice, decoction of kulattha	Stops bleeding from genital passage	Consumed orally (vāta asrgdara)
Payasyā, utpala, lotus roots etc., ending in mustā	Stops bleeding from genital passage	Mixed with milk, sugar and honey. Consumed orally (pitta asrgdara)
Pāṭhā, seed pulp of jambu and mango, saileya etc., ending in arjuna (puṣyānuga cūṛṇa)	Stops discharges of varied colours and relieves genital disorders; useful in treating children with doṣa-induced diseases	Collected under puṣya and powdered; consumed with honey and rice water to follow
Rājādana leaves, kapittha	Relieves pittaja and vātaja disorders	Paste fried in ghee and taken

Madhuka, triphalā, lodhra etc., ending in saurāṣṭrikā	Relieves pittaja disorders	Paste mixed with honey and consumed
Nimba, guḍūcī	Relieves kaphaja asrgdara	Consumed with urine
Kāśmarya, kuṭaja	Effective in vaginal bleeding, failure of menstrual bleeding (arajaskā), recurrent abortions	Ghee cooked with decoction; used for irrigation of the genital passage
Blood of deer, goat and sheep, curd, sour fruits, ghee	Beneficial when menstrual bleeding fails to occur (arajaskā)	Cooked together with jīvanīya drugs; taken orally
Jīvanīya group	Effective in karṇinī, acaranā, śuṣka yōni, prākcaraṇā; vāta and kapha disorders	Oil cooked with the drugs: used for irrigating the genital canal
Bile of cow or fish	Cleanses and removes itching, smell, and moisture	Cloth soaked in the bile 21 times inserted into the genital canal
Vāta-relieving oils cooked a hundred times	Beneficial in prākcaraṇā and aticaraṇā disorders	Given as enema; also lubricant substances by mouth
Bark of sallakī, jingiṇī, jambu etc., ending in pañcavalkala	Relieves vipluta disorder	Decoction mixed with oil; cloth soaked in it used as a plug
Kuṣṭha, pippalī, arka, triphala	Relieves karṇinī disorder	Ground with rock salt and goat's urine; made into a suppository
Trivṛt	Beneficial in udāvarta and other vātaja disorders.	Also effective in mahāyoni and srasta yoni. Part of a regimen including fomentation, meat soup, enema with milk prepared with daśamūlas; trivṛt used for irrigation of the genital canal
Fat of hog, bear	Beneficial in mahāyoni and sraṣta yoni	Boiled with ghee and sweet drugs. Genital passage filled and bandaged with flaxen

		cloth. In sraṣta yoni, the displaced part should be rubbed with ghee and fomented before replacement. A bolus of vasavāra should then be placed in the genital canal and bandage applied till the next urination

No disorder of the female genital canal can arise without the perturbation of vāta. Therefore the pacification of vāta gains priority in the treatment of the disorders of the female genital organs.

Formulations/ Preparations	Actions	Remarks
Paste of rohitaka root or āmalakī seeds	Stops whitish discharge	Consumed with sugar and honey
Paste of lodhra, decoction of nyagrodha bark	Stops whitish discharge	Consumed orally; cloth soaked in it can also be used as a plug in the genital canal
Plakṣa bark	Stops whitish discharge	Powdered, mixed with honey; inserted into the genital canal after lubrication
Lodhra, priyaṅgū, madhuka	Stops whitish discharge	Suppository made with honey and inserted into the genital canal
Saralā, guggulu, barley, oil and kaṭu fish	Stops whitish discharge	Mixed with ghee and burnt to fumigate the genital canal
Kāsīsa, triphalā, ending in dhātaki saurāṣṭrikā etc., ending in dhātaki	Rids of sliminess	Powdered and mixed with honey; applied in the genital canal
Palāśa, sarja, jambu etc., ending in dhātaki	Cleanses passage and stops discharge	Made into a paste and applied in the genital canal
Paste of tuvaraka or powdered sarvagandha	Removes foul smell	Applied in the genital canal

EXCESSIVE BLEEDING FROM THE GENITAL PASSAGE (PṚADARA)[7]

Normal menstrual discharge issues monthly without burning sensation or pain and continues for five days. Its colour is similar to that of gunja seed or red lotus; in volume, it is neither too little nor too much.

When a person eats incompatible food or eats in excess, vāta is perturbed with consequent disturbance in blood (which exceeds its limit). The combination of vāta and blood acting in the uterus accounts for the excessive loss of blood during menses. This condition may manifest in terms of the three doṣas or the three doṣas acting together. Their clinical features follow:

Vātaja	Severe pain around the waist, back, heart region, groins; frothy, thin, blackish or reddish discharge.
Pittaja	Burning sensation, redness, thirst, fever, dizziness, painful bleeding with hot red, black, blue or yellow discharge.
Kaphaja	Mild pain, nausea and vomiting, cough and shortness of breath, menstrual flow viscous, oily, cold and thick.
Sannipāta	Combines the above features in varying degrees. The chronic and profuse discharge due to the disturbed doṣas would drain the patient of muscle fat, and fat, and she would become pale, feverish and debilitated. The disease would become incurable at that stage.

The treatment for excessive bleeding is on the same lines as for bleeding piles or internal bleeding, which were outlined earlier.[8]

DISORDERS OF BREAST MILK [9]

TYPES

Dietary indiscretion and excesses, eating during indigestion, night vigil, mental and physical stress, physical inactivity, too much wine and many other causes affect the milk-carrying channels of the breast and produce eight types of disorders which were listed earlier. Their clinical features are given below:

Types of disorder caused by perturbed doṣas	**Effects on infant**
1. Spoiled taste of milk	Becomes stunted, loses weight
2. Vāta churns and makes milk foamy; poor flow	Has feeble voice, retains stool, wind and urine
3. Vāta mops up the fatty part of milk and dries it up	Becomes emaciated.
4. Pitta discolours milk	Acquires abnormal colour, thirst, diarrhea, fever and dislike of breast milk
5 . Pitta spoils milk and gives foul smell	Develops pallor and jaundice
6. Kapha makes milk too fatty and thick	Suffers vomiting, tiredness, too much sleep, cough, shortness of breath
7. Kapha makes milk mucous	Develops swelling of face and dullness
8. Kapha makes milk heavy	Develops heart disorders

MANAGEMENT [10]

To correct the disorders of breast milk, the wet nurse should be treated by appropriate measures. Lubricant therapy, fomentation and emesis should be administered sequentially. The formulation used at this stage is given below:

Formulations/ Preparations	Actions	Remarks
i. Nimba, paṭola ii. Vacā, priyaṅgū, madhu yaṣṭi etc., ending in saṛṣapa	Produces emesis	Decoction of group i., salt and paste of group ii. mixed and given orally

Following emesis, a healthy diet should be given. When her strength, health and time are appropriate she should be purged, for which trivṛt or harītakī mixed with the decoction of triphalā are very satisfactory.

The diet of the wet nurse should consist of śāli and śaṣṭika rice, priyaṇgu, barley, bamboo seeds and other agreeable articles cooked with fatty additives. Soups of greengram, lentils; of tender leaves of nimba, vetra, kulattha, vartāka and āmalakī with trikaṭu and rock salt are beneficial because they cleanse the milk. Well-cooked meat of rabbit, grey partridge and deer should be given to non-vegetarians. The formulations for purifying breast milk are the following:

- Water boiled with sārṇgeṣṭā, saptaparṇa bark and aśvagandhā.
- Decoction of guḍūcī and saptaparṇa bark.
- Decoction of śuṇṭhī.
- Decoction of kirātatikta.

When the milk has specific defects, the following measures are appropriate.

Formulations/ Preparations	Actions	Remarks
Drākṣa, madhuka, sārivā, payasyā	Clears abnormal taste	Ground and dissolved in warm water
Pancakōla, kulattha	Clears abnormal taste (used together)	Paste applied on breasts
Pāṭhā, śuṇṭhī, sārṅgeṣṭa, murvā	Clears frothiness in milk	Made into a paste: taken in warm water
Anjana, śuṇṭhī, devādaru etc, ending in priyaṅgū	Clears frothiness in milk (used together)	Made into a paste and applied on breasts
Kirātatikta, śuṇṭhī, guḍūcī	Relieves various defects	Decoction made and given.
Barley, wheat, mustard	Relieves various defects (used together)	Paste applied on breasts
Milk or ghee	Improves the quality of rough milk	Cooked with milk purifiers such as pāṭhā, śuṇṭhī, devadāru etc Consumed orally
Jivakādi, pancamūla	Improves the quality of rough milk (used together)	Warm paste applied to the breasts
Yaṣṭimadhu, mṛdvika, payasyā, sindhu varikā	Removes discolouration	Paste in cold water consumed orally
Drākṣa, madhuka	Removes discolouration (used together)	Paste applied on breasts
Harītakī, trikaṭu	Removes bad smell	Powdered and consumed with honey
Sārivā, uśīra, manjiṣṭā etc, ending in candana	Removes bad smell (used together)	Paste applied on breasts
Devadāru, mustā and pāṭhā	Restores normalcy when milk is fatty	Paste taken with rock salt in warm water
Sarṅgeṣṭa, harītakī, vacā etc, ending in pāṭhā	Clears slime in milk	Consumed as a decoction
Vidari, bilva and madhuka	Clears slime in milk (used together)	Paste applied over breasts
Trāyamāna; guḍūcī, nimba, paṭola, triphala	Lightens heavy milk	Taken as decoction
Balā, śuṇṭhī, sarṅgeṣṭa etc, ending in payasyā	Lightens heavy milk (used together)	Paste applied over breasts

In treating children with ailments, it should be noted that doṣas, dhātus and malās are identical in adults and children, and the difference relates to quantity alone. Special attention should be paid to the management of children including the avoidance of procedures such as emesis, insistence on

administering small doses of medications, and sparing hot, sour, pungent and heavy drugs.[11]

SEMINAL DISORDERS AND IMPOTENCE [12]

ORIGIN OF DISORDERS

What is ejaculated during orgasm is semen which contains the man's seed. As the seed of a plant fails to sprout if attacked by bad climate, worms, fire etc., the seed of man can also be damaged due to a variety of causes. These include excessive intercourse or abstention, indiscretion in food, ignorance of woman's desires, debilitating disease, emotional disturbances etc., which perturb the doṣas. They in turn, reach the semen through semen-carrying vessels and damage the seed.

TYPES OF DISORDERS OR DEFECTS [13]

There are eight types; these are caused by the perturbation of doṣas, injuries, suppression of urges and so on. They are distinguished by the clinical features of semen which may be frothy, thin, rough, discoloured, foul smelling, slimy, combined with other dhātus like blood or prone to clot. Normal semen is lubricant, slimy, sweet, painless during ejaculation and white in colour.

TREATMENT [14]

For defective semen, cyavanaprāśa, jīvanīya ghṛta and śilājatu preparation are beneficial. Other remedies are:

Vātaja	Non-lubricant enemas
Pittaja	Rasāyanas
Kaphaja	Rasāyana made of pippalī, amṛtā and loha Or Triphalā and bhallātaka
Semen mixed with dhātus	Formulations directed against the disturbed doṣa and dhātu

Ghee, milk, meat, śāli rice, barley and wheat in the diet, and enemas should be used for treating seminal disorders

IMPOTENCE

Clinical features[15]

Impotence results from defective semen, damage to seed, poor penile strength and senility. The impotent man avoids sleeping with his beloved or willing partner due to the flaccidity of penis; if he attempts intercourse he breathes heavily and breaks into a sweat and struggles fruitlessly without

penile erection or ejaculation of semen.

Among the causes of damage to the seed are incompatible food, emotional turmoil, overindulgence in sex, ignorance of the mind of woman, suspicious nature, fasting, wrong application of evacuative therapy, perturbation of doṣas and the use of evil spells. This type of impotence is accompanied by pallor, weakness or absent erection, heart disorders, jaundice, cough, fever and various other troubles.[16]

When the loss of penile strength is the cause of impotence, the antecedents could include dietary indiscretions of varied kinds: sexual intercourse with a minor or through passages other than the genital canal, intercourse with chronically ill women with diseased genitalia, intercourse with quadrupeds, injuries to the penis, poor hygiene of the penis, excessive use of insects to promote erection and the suppression of ejaculation. The symptoms of this kind of impotence are pain, swelling, redness, boils and ulcers with discharge from the penis, ring-like hardness on the penis, fever, dizziness, vomiting, fainting, burning sensation in the pelvis, testicles, middle of the perineum and groin, appearance of maggots and foul odour, and sloughing of the organ and testicles.

Senility is also responsible for impotence. Advancing age is witness to the attrition of dhātus, diminution of strength and energy, decline in the function of all sense organs, drop in nutrition and physical activity, mental fatigue and failure to use aphrodisiacs. Impotence is a consequence of these senile changes.

The fourth variety of impotence results from defective semen. Strain from excessive mental work, emotional turmoil, dietary indiscretion and fasting by a debilitated person deplete the ojas located in the heart and leads to a cascade of depletions in the other constituents. Of these, semen is preeminent. The deficiency of semen can also result from overindulgence in sexual intercourse.

Sometimes a man appears normal in all respects but behaves as a eunuch. This happens thanks to the combined effect of flaws in the parental seed and past actions, which disturb the doṣas of the fetus and damage the semen-carrying vessels.

Treatment[17]

Lubricant therapy and fomentation followed by a lubricant purgative is the sequence of steps in the general management of impotence. Once he is taking a normal diet, non-lubricant and lubricant enemas should be alternated. If the impotence is due to the loss of semen, virile therapy mentioned earlier should be administered.

When the decline in penile strength is suspected, the application of a medicated ointment or irrigation and bloodletting should be considered for treatment. Lubricants (orally, as purgative and as enemas) should be used. Measures to build up the body are also advisable.

In senility and paucity of semen, lubricant therapy and fomentation should be followed by evacuation with lubricant drugs. Both types would benefit from the intake of ghee, aphrodisiacs and rasāyanas as well as enemas.

PRINCIPLES OF THERAPEUTICS

Chapters 35 to 64 deal with the treatment of all diseases and remain the peerless core of *Caraka Samhita*. Some diseases do not find mention in the text because of the vast number and manifestations

of disorders. But the treatment of the unmentioned disorders should conform no less to the same principles of treatment while the physician keeps in mind the particular disturbance of a doṣa and other relevant factors. The basis of successful treatment - for stated and unstated diseases - is that the therapeutic measure should be so designed as to oppose the perturbed doṣa, dhātu on which doṣa acts (dūṣya) and causation (nidāna). But prudent therapeutics is more than this. A wise physician should take into account the place, time, dose and accustomed lifestyle of the patient in planning a course of treatment. A physician who ignores these factors and goes merely by the textbook is no different from a blind artist who tries to paint.

Several other factors which govern the efficacy of therapeutic measures are discussed below:[18]

ROUTE OF ADMINISTRATION

Orally administered, a drug counters diseases in the stomach and upper part of the gut. Nasal administration counteracts diseases of the head; applying medication through the anal route such as by enemas subdues diseases of the lower gut. For diseases such as boils on the skin, surface applications are appropriate.

TIME

The influence of time is pervasive. It operates through the time of the day, the patient, drug, disease, state of digestion and the season. This is borne out by several examples.

Time of the day	Certain types of vomiting take place only in the forenoon.
Patient	The strength of the patient influences the effect of the drugs. For best effect a strong patient could take medications on an empty stomach in the morning whereas a weak patient would be better off mixing it with light and agreeable food.
Drugs	The effect of time on the working of drugs is seen in ten temporal contexts. These are before meal day and night (2); halfway through two meals during day and night (2); after meals day and night (2); frequently (1); before and after meals (1); mixed with meal (1); between mouthfuls of food (1). The choice of these frequencies in the clinical context is explained below:

Disturbed apāna	- Drug taken before meals
Disturbed samāna	- Drug taken half way through a meal
Disturbed vyāna and udāna	- Drug taken after a meal
Disturbed prāna	- vayu - Drug taken between mouthfuls of food

In shortness of breath, cough	- Drug taken frequently
In hiccup	- Drug taken with agreeable food

Disease: In a condition such as fever, liquid gruel, decoctions, milk, ghee and purgatives should be given one after another every six days.

State of digestion: Good digestion is indicated by the return of appetite, feeling of lightness and wholesomeness. Unless the digestive status is satisfactory, drugs may not have the desired effect.

Season: The effect of seasons on the perturbation of doṣas and health in general was discussed earlier at length. The study of the course of the disease in terms of seasons, diurnal changes, age and meals is known as the time study of diseases . For example, kaphaja disorders prefer spring, pittaja autumn, and vātaja rains. Moreover, vātaja ailments worsen at the end of the day and night; pittaja during midday and midnight. Still another example of the influence of time is the observation that vātaja, pittaja and kaphaja disorders peak in the last, middle and initial phases of life. Also, vātaja diseases worsen after digestion when the stomach is empty; pittaja during digestion and kaphaja after the meals.

DOSE

In tiny doses, medications are ineffective; in very high doses, they would be dangerous. The choice of correct doṣage should therefore be made keeping in mind the seriousness of the illness, potency of the drug and other relevant factors.

ACCUSTOMED LIFESTYLE

Even if a substance appears disagreeable it should not be proscribed if a person in his own surroundings has been long accustomed to it. There are many observations to illustrate this principle. The Bāhlīkas, Pallavas, Chinese, Sulikas, Yavanas and Śākas are used to a life of meat, wheat, wine, weapons and fire. In the eastern parts of the country, people eat fish; in Sindh, milk is a staple food; in Aśmaka and Avanti, oily and sour preparations are favourities; people in the Malaya region prefer roots, tubers and fruits; southerners love gruel; north-western people consume a drink called 'mandha'; and in the central zone, barley, wheat and milk products are the favoured items. When the patients belong to these regions, they should be given drugs which are compatible with their lifestyle and food habits.

A physician should keep in mind other directions as well. Take the rule of applying measures opposed to the disturbed doṣas as the cornerstone of therapeutics. Yet, when pitta is perturbed inside a joint, it is treated successfully by the application of fomentation and poultices, which pits heat against heat and apparently violates the cardinal rule. Similarly, cold irrigations are effectively used to deal with disturbed kapha which hides within. Here cold seems to subdue cold. There are many other examples which establish that a physician should never treat patients by following rules and recommending formulations blindly and unthinkingly.

When a patient is debilitated, an apparently cured disease may lurk within and reemerge with fury later. Therefore harmless drugs should be administered for maintenance during the stage of convalescence. On occasion a correct formulation may seemingly provoke a flare up in the treatment

of a deep-seated malady; that should not lead to the withdrawal of the drug which may, in fact, need to be continued. If the patient dislikes the wholesome diet prescribed by the physician, efforts should be made to make it palatable, if not delicious, to suit his taste.

65 *Drugs for Evacuation (Emetics and Purgatives)*

Emetics and purgatives share the function of ridding the body of impurities and excreta, and are therefore called evacuatives. The only difference is that while emetics evacuate upwards, purgatives expel the digestive products downwards. Due to their properties of heat, sharpness, pervasiveness and potency, the evacuative drugs reach the heart, flow through the vessels and loosen the accumulated impurities in the whole body. Thereupon, the liquefied impurities glide in the body just as honey flows in a lubricated jar. Aided by vāta, the liquefied impurities flow into the stomach. If the drug is primarily composed of fire and wind, the material in the stomach is thrown upwards by the udāna wind. If the drug's composition, on the other hand, is dominated by water, earth and specific potency, the excreta is pushed downwards. When the drug of combines the properties, the expulsion of impurities and excreta can take place in both directions.[1]

EVACUATIVE DRUGS

There are six hundred evacuatives which are based on the following basic drugs.

Emetics	**Purgatives**
Madanaphala Jīmūta Ikṣvāku Dhāmārgava Kuṭaja Kṛtavedhana	Śyāmā Trivṛt Chaturaṅgula Tilvaka Mahāvṛkṣa Saptala śaṅkhiṇī Dantī Dravantī

The large number of evacuatives results from the various combinations, interactions and properties of the basic drugs, of the body, of additive drugs and of the carriers for the formulations.[2]

DETERMINANTS OF POTENCY OF MEDICINAL PLANTS

As the potency of drugs depends much on the place of their origin, the markers of the places need to be considered. Locale is of three kinds: dry, marshy and intermediate.[3] Their characteristics are mentioned below:

Dry: Sparsely populated; the land is rough with sand and gravel (which present mirages), fruit-bearing trees such as kadara, khadira, asana, aśvakarṇa, dhava, sallakī, somavalka, aśvattha and āmalakī; strong winds; plenty of birds such as quail and partridge. The inhabitants are hardy people and the predominant doṣas are vāta and pitta.

Marshy: Abounds in forests, rivers and trees such as tamala, coconut and bananas; often located along the sea coast and criss-crossed by streams with undulating terrain. There is cool breeze, abundant flowering plants, bird song of suras, cranes, puṇḍarīka, kadamba, koel and other feathered tribes resounds; people are good-looking and delicate. The dominant doṣas are vāta and kapha.

Intermediate: Combines features of both arid and marshy locale, and is home to people who have strength, good complexion and stability of an intermediate degree.

Medicinal plants grown in dry and intermediate regions are preferred for use provided they are not picked from cremation grounds, sacred places and temples, ant-hills, unploughed land, barren areas, ditches and other undesirable spots.

Apart from the place of origin, there are several other factors which should guide the collection and preparation of plants for medicinal use. Grown and matured in the appropriate season, having the proper taste, smell, colour, feel and efficacy, only those plants should be harvested which have not been damaged by fire, insects, wind and water. For collection of branches and leaves the ideal time is rains and spring; for roots, summer or winter; for bark, tubers and latex, autumn; for core wood, early winter; and for flowers and fruits when they are ready. They should be collected by a clean person of good and noble conduct who should be attired in white and should face the east or north. He should also have kept a fast and worshipped the gods prior to picking the plants.

After collection, the material should be preserved in good vessels in well-ventilated rooms and protected from fire, water, dust, rodents etc., by covering and storing carefully on a swing. Ritual worship should be offered to the collection of plants every day. They are administered to the patients through carriers which are appropriate to the particular doṣa that is disturbed. For example, wine, sauvīraka, dhānyāmla and sour curd are suitable as carriers of drugs for vāta disturbance; grapes, āmalalā, honey, and milk for pitta; and honey, wine and decoctions for kapha.[4]

The procedure for emesis[5]

The patient should undergo lubricant therapy and fomentation for two or three days prior to emesis. The night before, the patient should take a soup of the meat of marshy animals, milk, blackgram or similar foods which stimulate kapha. In the forenoon of the following day he should take a dose of ghee with gruel on empty stomach after offering worship. The dose of the madana formulation, which could be a handful or more as judged by the physician, should be ground, mixed with a decoction of kovidāra, karbūdara, nīpa, vidula, bimbi, śaṇapuṣpī and prayakpuṣpī, and kept overnight. In the morning, it should be strained, mixed with honey and rock salt and poured into a cup. The physician should then chant a propitiatory hymn to Brahma, Dakṣa, Rudra, Indra and other gods, medicinal plants and all the living creatures, and give the drug to the patient who should face north or east. The patient would vomit in response to the drug, and the vomiting should continue until bile or yellow

colour appears in the vomit. If the response is not satisfactory, a pippalī preparation should be given to supplement the emetic action.

EMETICS

Formulations of madana[6]

Preparations of madana fruit are the best among all emetics. They should be harvested under puṣya or other auspicious constellations between spring and summer. The ripe, undamaged fruits in good condition should be collected, washed, covered with kuśa grass and plastered with cow dung for storage in a heap of barley husk, blackgram or similar substances. After eight days, when the fruits would have softened and acquired the smell of honey, they should be sun-dried, and the seeds mixed with ghee, curd, honey and a paste of sesamum and dried again. For preservation, the madana preparation should be covered and kept in an earthen jar and protected in a swing.

Table 65.1 Formulations of madana[7]

Formulations	Actions	Remarks
Madana seeds	Arrests internal bleeding through rectum	Milk boiled with seeds and used to prepare gruel: the curd prepared from the top layer of milk controls kaphaja vomiting, asthma, salivation; the top layer of milk is also beneficial for perturbation of pitta in the chest and throat
Madana seeds	Beneficial when digestive fire is suppresed by kapha and body is dehydrated	Butter made from milk boiled with the seeds; mixed with paste and decoction of seeds: given orally
Fine powder of madana seeds	Settles perturbed pitta and kapha	Made after processing a decoction 21 times, spread on a lotus flower and kept overnight. The flower is plucked in the morning, powdered and used for inhalation after a meal of haridrā, kṛśarā and ksīrayavāgu, rock salt, jaggery and sugar syrup
Madana seeds, jīmūta	Relieves pitta located in the seat of kapha	Seeds sun-dried and given with a decoction of jīmūta

i. Madana seeds ii. Āragvadha, kutaja, vikaṅkata, etc., ending in śuṇṭhī	Effective emetic	Linctus prepared with madana seeds and decoction of any member of group ii.
i. Madana seeds ii. Elā, harenuka, śatapuṣpa etc., ending in aśoka-rohiṇī	Effective emetic	Madana seeds processed with any one of group ii. and made into a paste or balls. Used according to the disturbed doṣa
Madana seeds	Effective emetic	Sesamum and śāli rice powder soaked in decoction of seeds; consumed with the decoction
i. Sesamum, śāli rice powder soaked in madana seeds decoction ii. Sumukha, surasā, kuṭheraka etc., ending in daṇḍīraka		Group i. consumed with the decoction of any member of group ii.
i. Madana seeds ii. Badaraṣāḍava, raga, leha etc., ending in wine	Induces vomiting	Madana seeds given with preparations in ii. according to doṣa, disease and preference

The above formulations are part of a total of 133 formulations of madanaphala.

Formulations of jīmūta[8]

Jīmūta preparations are effective emetics in treating disorders such as fever and hiccup caused by the disturbance of doṣas. The plant should be harvested according to the protocol for madana fruits and with the same regard to the place of origin. Milk should be prepared with its flowers, milky porridge with fresh fruits, the top layer of milk with hairy fruits, curd with bald fruits, and sour curd from milk boiled with the green, raw fruit. The mature fruit should be dried, powdered and stored in a clean vessel. It should be given with milk for the perturbation of vāta and pitta. Other formulations are noted below:

Table 65.2 Formulations of jīmūta

Formulations	Actions	Remarks
Fruit of jīmūta	Improves loss of appetite, cough and phthisis of kaphaja origin	Soaked in alcohol, crushed and filtered
i. Two or three fruits of jīmūta ii. Guḍūcī, madhuka, kovidāra etc., ending in kuṭaja	Improves loss of appetite, cough and phthisis of kaphaja origin	Jīmūta fruits crushed and soaked in a decoction of group ii., filtered and taken orally
Jīmūta fruits	Relieves fever caused by pitta and kapha or pitta and vāta	Given with the juice of jivaka, śātāvari or sugarcane
Jīmūta fruits	Strong emetic	Milk boiled with the fruits used to extract butter which is processed with madanaphala decoction

Formulations of ikṣvāku[9]

Ikṣvāku is a reliable emetic for patients whose illnesses arise from the perturbation of kapha, for example, shortness of breath, fever with vomiting, poisoning, cough and fainting. Several formulations based on ikṣvāku are given below:

Table 65.3 Formulations of ikṣvāku

Formulations	Actions	Remarks
Tender leaves of a plant which has not borne fruit	Relieves fever due to kapha and perturbed pitta	A fistful boiled with milk and given
Flowers		Four preparations in milk; one in alcohol (similar to jīmūta)
Fruits	Relieves nasal congestion, hoarse voice and phlegm in the chest	Juice boiled with milk

Old fruit	Remedy for cough, shortness of breath and vomiting of kaphaja type	Pulp removed and filled with milk; when split, it is consumed
Seeds	Beneficial in poisoning, gaseous abdominal lumps, enlarged nodes, swelling in legs	Soaked in goat's milk and consumed
Fruit pulp	Relieves pallor, skin disorders like leprosy and poisoning	Consumed with buttermilk
Fruit juice and flowers	Induces vomiting in patients with a keen sense of smell who are loath to take oral medications	Dried, powdered and smeared on garlands which are inhaled
Fruit pulp	Effective emetic	Taken with jaggery and sesamum paste
Fifty seeds	Effective emetic	Increased to fifty in steps of ten; soaked in a decoction of phalādi drugs, crushed, filtered and taken orally
Seeds	Effective emetic	A fistful taken with the decoction of madhuyaṣṭī and kovidārādi drugs
i. Seeds ii. Dhāmārgava, jīmūta, kṛtavedhana and kuṭaja	Good emetic	Seeds (i.) boiled with bilva root decoction; filtered and mixed with phanita, seeds and ghee and paste of group ii. Made into a linctus over fire
Ikṣvāku juice	Effective emetic for patients with fever, cough, throat disorders of kaphaja origin	Drink prepared with roasted grain flour
Seeds	Good emetic for those with polyuria, gaseous abdominal lumps	Paste taken with meat soups

Formulations of dhāmāṛgava[10]

They are used for treating poisoning by gara (artificial poisons), gaseous abdominal lumps, cough, vāta located in the seat of kapha, kapha in the throat and diseases caused by the perturbation of kapha. The method of collection of various parts of the plant should conform to the rules prescribed earlier. A list of the formulations for use is given below:

Table 65.4 Formulations of dhāmāṛgava

Formulations	Actions	Remarks
Tender leaves	Emetic for those with kaphaja disorders	Juice dried and made pills: consumed with with decoction of kovidārādi and madhuka
Flower		Four preparations in milk and one in alcohol as for jīmūta
Fruit without flesh and seeds	Effective emetic in gaseous abdominal lumps, kaphaja disorders	Kept overnight in madhuka decoction with jaggery. Given with kovidārādi drugs
Powdered fruit	Effective emetic for vātaja disorders	Sprinkled on flowers like water lily which are inhaled after the patient has been kept on a rich diet of meat soup etc.
Powdered fruits	Effective emetic	Dissolved in a solution of cowdung or horsedung, or fecal solution of deer, elephant etc.
Jīvaka, ṛṣabhaka, vīra etc., ending in madhuka	For emesis in heart burn, cough and kapha associated with disturbed pitta	Powdered separately and mixed with dhāmārgava consumed with sugar and honey
Dhāmārgava	Beneficial for all types of poisoning	Paste taken with the decoction of tumburu seeds
i. One or two fruits. ii. Jāti, sumanasāyinī, haridra etc., ending in kāsamarda	Excellent emetic for mental disorders	Fruits crushed in the decoction of each of group ii. and filtered
Fruits	Effective emetic	Milk boiled with the fruits and used for making ghee which is processed with phalādi drugs

Formulations of vatsaka[11]

The male and female plants of vatsaka need to be distinguished. While the male has large fruits, white flowers and polished leaves, the female plant is dark with red flowers and smaller fruits borne on stalks. Vatsaka is specially beneficial for patients with a weak constitution and gets rid of disorders due to perturbed kapha and combinations of kapha and blood. It is prescribed in the treatment of fever, heart disorders, cellulitis, *etc.*

The mature fruits should be collected in accordance with conventions. A handful of crushed fruits should be soaked in the decoction of madhuka and kovidārādi drugs and stored overnight. It should then be squeezed and mixed with salt and honey and consumed to produce strong emesis for the treatment of disturbed pitta and kapha. Other preparations follow:

Table 65.5 Formulations of vatsaka[*]

Formulations	Actions	Remarks
Vatsaka seeds	Eliminates pitta and kapha by emesis	Powdered, soaked in latex of aṛka for eight days; consumed with the decoction of jīvaka
i. Vatsaka seeds ii. Madanaphala, jīmūta, ikṣvāku, jīvantī	Eliminates pitta and kapha by emesis	Vatsaka seeds powdered and taken with the decoction of any of group ii.
Vatsaka seeds	Eliminates pitta and kapha by emesis	Powder consumed with mustard water, madhuka or salt
Vatsaka seeds	Eliminates pitta and kapha by emesis	Powdered and consumed with kṛśarā *

Formulations of kṛtavedhana

Biting to taste, sharp and hot, this drug is useful in treating deep rooted diseases such as kuṣṭha, pallor, splenic enlargement, swelling, poisoning and gaseous abdominal lumps. The procedure for making preparations of flower etc., in milk and alcohol is similar to what was outlined earlier for other plants for evacuative therapy. A few illustrative formulations are given below:[12]

Table 65.6 Formulations of kṛtavedhana

Formulations	Actions	Remarks
One or two well-dried and old fruits	Induces emesis; beneficial in deep-seated ailments mentioned above	Given with decoction of nine madhukādi drugs
i. Fruits ii. Kṛtavedhana iii. Phalādi drugs iv. Thirteen āragvadhādi drugs	Induces emesis; beneficial in deep-seated ailments mentioned above	Decoction of i. made into a linctus with paste of ii. and iii. and mixed with decoction of iv.
Fruits, phalādi drugs	Induces emesis; beneficial in deep-seated ailments mentioned above	Six fruits of kṛtavēdhana, ghee and a decoction of phalādi drugs processed together as directed
i. Kṛtavēdhana ii. Kovidāra iii. Phalādi drugs	Induces emesis; beneficial in deep-seated ailments mentioned above	Fifty fruits of i. boiled in the decoction of ii. cooked further with the paste of iii., and made into a linctus
Kṛtavedhana fruits	Induces emesis; beneficial in deep-seated ailments mentioned above	Cooked with meat and phalādi drugs to prepare a soup

PURGATIVES

There is no better drug than the root of trivṛt for purgation.[13] Trivṛt has several other names, the best

known being śyāma. Its properties include astringent and sweet taste which becomes kaṭu in the vipāka stage, and roughness. While it relieves perturbed kapha and pitta, its roughness may unsettle kapha. When used in combination with other drugs, as is usually done, it stabilises all perturbed doṣas.

Trivṛt has two kinds of roots. The reddish type is especially useful in treating children, the infirm and the old; the blackish variety, on the other hand, is highly potent and gives rise to confusion, fainting, constriction of the throat and heart, and quick elimination of stools. The blackish roots are reserved for use in patients with constipation, hard and plentiful stools. The collection of roots should follow the traditional procedure and rituals and aim to collect deeply penetrating, smooth and straight roots. They should be cut, the inner core removed and the bark dried and stored.

Formulations of trivṛt

Before administering the formulations the patients should be given lubricant treatment and fomentation and a simple diet of gruel on the previous day. Some formulations are:[14]

Table 65.7 Formulations of trivṛt

Formulations	Actions	Remarks
Trivṛt roots	Effective purgation in kapha-vāta perturbations	Paste dissolved in sour liquid or cow's urine or wine, and decoction of triphalā to be taken orally
Powder of twelve salts (salt group), dry ginger; trivṛt	Effective purgation in kapha-vāta perturbations	Mixed as per directions and consumed
Pippalī, pippalīmūla, marica etc., ending in śuṇṭhī	Effective purgation in kapha-vāta perturbations	Each mixed with twice the quantity of trivṛt as per directions and consumed with cow's urine
Jīvakā, ṛṣabhaka, meda etc., ending in madhuyaṣṭi	Effective purgation for vāta and pitta disturbance	Each mixed with twice the quantity of trivṛt and consumed with water sweetened with sugar

Powders of both types of trivṛt roots, harītakī	Effective purgation for vāta and pitta disturbance	Powders mixed with half the quantity of harītakī; and taken with milk, meat, soup, ghee etc.
Ajagandhā, tugākṣīrī, vidārī, śarkarā, trivṛt	Purgation beneficial in sannipāta fever	Powdered and consumed with honey and ghee
Trivṛt, tvak, patra, marica	Effective purgation	Sugar and honey cooked in a new earthen jar, the powdered drug added; preferred for rich patients (for easy purgation)
Juices of sugarcane, grapes, pilu, parūṣaka, honey: powder of trivṛt	Effective purgation for pitta disturbance	Mixed with sugar candy to make a linctus; trivṛt powder added and given to rich patients (for easy purgation)
Pippalī, śuṇṭhī, yavakṣāra, śyāma, trivṛt	Effective purgation for kapha disturbance	Powdered and consmed with honey
i. Mātuluṅga, harītakī, āmalakī etc., ending in dāḍima ii. Tvak, patra, nāgakesara, elā	Effective purgation for kapha disturbance	Juices of group i. cooked in oil; pulp of sour mango and kapittha added; when well cooked, trivṛt powder added with powders of ii. and honey to make a linctus for rich patients (for easy purgation)
Nīli, bhṛṅga, elā, trivṛt	Effective purgation for people with weak constitution and disturbance of vāta, pitta and kapha	Powdered as directed; sugar added and consumed with fruit juice, honey and roasted grain flour
Triphala, śyāma, trivṛt, pippalī	Controls the vomiting of blood, fever and sannipata disturbance	Sweet boluses made with sugar and honey
Trivṛt, triphalā, viḍaṅga, pippalī, yavakṣāra	Effective purgation with no dietary restriction. Useful in treating abdominal	Powdered and mixed; consumed with ghee or honey

	lumps, splenic enlargement, shortness of breath, kapha and vāta disorders	
Vidaṅga, pippalīmūla, triphalā etc., ending in ajamoḍā (kalyāṇa guda)	Purgation relieves a variety of disorders including fainting, fever, painful urination, piles, jaundice etc.	Each powdered and mixed together; trivṛt powder, oil, āmalakī juice, jaggery added and cooked over mild fire; rolled into balls; suitable for all seasons
i. Trikaṭu, tvak, patra etc., ending in harītakī ii. Mukūlaka iii. Trivṛt	Purgation beneficial in a variety of conditions such as fever, dysuria, cough, wasting, pallor, poor appetite, poisoning, etc.	Groups i., ii. and iii. powdered separately and mixed with sugar and honey as directed; consumed early in the morning with cold water
Harītakī, āmalakī, eraṇḍa, trivṛt	Effective purgation	Sweet balls made as directed for rich patients
i. Trivṛt, haimavatī, śyāma etc., ending in śuṇṭhī ii. Hiṅgu, sauvarcalā, trikaṭu etc., ending in dāḍima	Purgation benefits those with pain in the low back and heart region, piles, hiccup and shortness of breath; upward movement of vāta	Group i. powdered with jaggery and rolled into balls; covered with powder of ii.
Trivṛt, indrayava, pippalī, śuṇṭhī	Purgative for rainy season	Powdered and mixed with honey and grape juice
Trivṛt, durālabhā, śarkarā etc., ending in saptalā	Purgative for autumn	Powdered and consumed with grape juice
Trivṛt, citraka, pāṭhā etc., ending in svarṇakṣīrī	Purgative for early winter	Powdered and consumed with hot water
Trivṛt	Purgative for summer	Consumed with equal quantity of sugar
Trivṛt, trāyamāna, hapuṣā etc., ending in svarṇakṣīrī	Purgative for all seasons	Powdered together, soaked in cow's urine for three days

Trivṛt, śyāma, durālabhā etc., ending in kaṭuka	Safe purgative even for the rough	Powdered together and consumed with ghee, meat soup or hot water
Trikaṭu, triphalā, hiṅgu, trivṛt, sauvarcalā, āmlavetasa	Beneficial in treating gaseous abdominal lumps and chest pain	Powdered in the proportions as directed with sugar
Trivṛt, triphalā, dantī etc., ending in rock salt	Effective purgation	Powdered together and soaked in āmalakī juice for a week; consumed with vegetable soup etc.
Paste of trivṛt	Safe purgation for gaseous lumps of abdomen	Cooked with ghee and sour substances
Roots of śyāma, trivṛt, āmalakī fruit	Safe purgation	Decoction made and cooked with ghee
Śyāmā, trivṛt	Safe purgation	Decoction processed with ghee
Śyāmā, trivṛt	Safe purgation	Milk boiled with the drugs
Trivṛt	Purgation relieves gaseous abdominal lumps, pallor, swelling etc.	Boiled in water and concentrated; filtered and mixed with jaggery; stored in a lubricated jar with honey, pippalī and citraka for a month
i. Barley ii. Śyāmā, trivṛt	Effective and safe purgation	Boiled barley steam cooked with decoction of ii. and fermented for six days (sauvīraka)

The formulations for purgation are usually given in combination with agreeable articles such as tvak, nāgakesara, dā ḍima, elā, sugar candy, honey *etc.* Wine and sour drinks are also used as accompaniments. Cold water spray on the face, and exposure to the pleasant smell of earth, flowers and fruits would enable the patient to overcome nausea after taking the formulations.

Formulations of āragvadha[15]

Āāragvadha is soft, sweet and cold in properties, mild in purgative action and safe to administer. Therefore it is especially applicable for children, the old and infirm, the emaciated and those with a weak constitution. It has a place in treating fever, heart disease, upward movement of vāta *etc.*

The fruits of āragvadha with good qualities should be collected in proper time and place and stored in sand for a week and sun dried. The pulp should then be extracted and kept in a clean vessel. The purgative formulations are given below:

Table 65.8 Formulations of āragvadha

Formulations	Actions	Remarks
Fruit pulp	Relieves burning sensation and upward movement of vāta	Given with fruit juice to children 4–12 years
Āragvadha, āmalakī	Effective and safe purgation	Cold decoction consumed with the top layer of curd and āmalakī juice
Fruit pulp, trivṛt, bilva	Effective and safe purgation	Consumed with a decoction of trivṛt or bilva
Trivṛt, āragvadha		Powder of trivṛt, decoction of āragvadha and jaggery gently cooked and made into a linctus
Āragvadha, āmalakī	Effective and safe purgation	Milk boiled with āragvadha and ghee extracted; ghee processed with āragvadha pulp and āmalakī juice. The ghee can also be cooked with the decoction of daśamūla, kulattha and barley or with śyāmādi group
Āragvadha, dantī	Effective and safe purgation	Aragvadha and jaggery soaked in dantī decoction for a month and a half, and consumed

The food accompaniments to āragvadha formulations can be sweet, pungent or salty according to the patient's preference.

Formulations of tilvaka[16]

The bark of the roots should be peeled, dried and powdered and dissolved in a decoction of tilvaka and strained. More powder is then dissolved in the solution which should be mixed with the decoction of daśamūla. The solution is dried and the resulting powder used. Some formulations are given below:

Table 65.9 Formulations of tilvaka

Formulations	Actions	Remarks
Powder	Purgation	Consumed with curd, buttermilk, urine, the top layer of wine or āmalakī juice
i. Millet ii. Meṣaśṛṅgi, harītakī, pippalī, citraka	Purgation	Millet fermented in a decoction of ii. Tilvaka paste consumed with the above preparation (form of vinegar)
Decoction of tilvaka	Purgation	Fermented for a fortnight and consumed
i. Jaggery and tilvaka ii. Dantī, citraka	Purgation in addicts of alcohol	Decoction of i. added to the decoction of ii. and fermented for a fortnight
Triphala, tilvaka	Effective purgation	Linctus prepared with the decoction of triphala and powdered tilvaka; ghee, honey and treacle added
Tṛivṛtādi group	Effective purgation	Cooked in water and concentrated; ghee and paste of the same group of drugs added with cow's urine and salt and cooked
Tilvaka		Paste processed with urine, sour substances, salt and ghee

Formulations of snuhi[17]

Snuhi is a highly potent purgative which breaks down accumulated impurities quickly. If used inappropriately, it can create complications. It should never be used in patients with soft bowel habits, mild accumulation of impurities and when safer alternatives are available. Its role in treatment relates to a variety of conditions such as pallor, gaseous lumps of the abdomen, skin disorders including leprosy, swelling, diabetics, and confusion provided the patient is strong.

There are two types of snuhi - one covered with few thorns and another with plenty of them. The second variety is better for treatment. At the end of winter, a two-or three-year-old-plant should be scratched with a sharp instrument and the latex collected. This material forms the basic drug in the following formulations.

Table 65.10 Formulations of snuhi

Formulation	Actions	Remarks
i. Snuhi latex ii. Pancamula or bṛhatī or kaṇṭakāri	Effective purgation	Quantities as directed of i. mixed with a decoction of ii. dried on charcoal; consumed with wine, juice of kola, āmalakī etc., according to preference
i. Saralā, svarṇakṣīrī, śyāmadi group, kaṭutrika ii. Snuhi latex	Effective purgation	Powder of i. soaked in ii. and consumed with ghee or meat soup
i. Trikaṭu, triphala, dantī, citraka, trivṛt ii. Snuhi latex	Effective purgation	Jaggery cooked with i. and mixed with ii.
i. Trivṛt, āragvadha, dantī, sankhinī, saptalā ii. Snuhi latex	Effortless purgation	Group i. soaked in cow's urine at night and sun dried for a week; mixed with ii. and powdered; the king's garland and clothes to be infused with the powder for inhalation
Śyāmā, trivṛt, snuhi latex	Effective purgation	Decoction mixed with latex, ghee or sugar syrup to produce a linctus
Snuhi latex	Effective purgation	Consumed with soup of meat, vegetables. Fish or meat could also be soaked in the latex and taken. Consumed after cooking in ghee. Could be mixed with wine

Formulations of saptalā and śankhinī[18]

Due to the properties of expansiveness, intensity and roughness, these drugs should be used in the perturbations of kapha leading to gaseous abdominal lumps, poisoning, heart disease, swelling, skin diseases and other disorders. Dehusked śankhinī fruits which are not dry and the roots of saptalā should be collected and stored properly for the preparation of formulations. Several formulations are outlined below:

Table 65.11 Formulations of saptalā and śankhinī

Formulations	Actions	Remarks
Śankhinī fruits: saptalā roots	Purgation beneficial in heart disorders	Made into a paste and mixed with wine and salt
i. Śankhinī fruits, saptalā roots ii. Priyāla, pīlu, amrātaka etc., ending in parūṣaka	Harmless purgative: beneficial in kapha and vāta-induced disorders	Paste of i. mixed with juices of ii. may be given with wine, sour curd etc.
i. Śankhinī fruits, saptalā roots ii. Vidārigandhādi drugs iii. Trivṛt, śyāma	Safe and effective purgation	Milk boiled with paste of i., ii. and iii. Oil cooked with the milk; consumed with the top layer of curd
i. Śankhinī ii. Sesamum iii. Harītakī		Powders of i. and ii. mixed and soaked in a decoction of iii. oil cooked with it is consumed
i. Śankhinī fruits, saptalā roots ii. Trivṛt, śyāma	Safe and effective purgation	Milk boiled with i. ghee is extracted; this is cooked with the paste of the same drugs. Drugs ii. are added and consumed with milk. The ghee can also be prepared with several other coupled drug combinations
Śankhinī fruits, saptalā roots, āmalakī	Safe and effective purgation	Prepared as ghṛta

Śankhinī and saptalā can also be processed into other formulations, such as sauvīraka, with equally good effect.

Formulations of dantī and dravantī[19]

When firm, mature and of a blackish-coppery hue, the roots of these plants should be harvested. They should be ground with pippalī and honey into a paste and cooked over fire. The cooked paste should be covered with a layer of earth and kuśa grass and sun-dried. The treatment with fire and sun rids the paste of side-effects because the roots are sharp, hot, depressant, heavy and possessed of rapid activity. They melt perturbed pitta and kapha but disturb vāta. Some of their formulations used for purgation in different conditions are listed below:

Table 65.12 Formulations of dantī and dravantī

Formulations	Actions	Remarks
i. Dantī, dravantī ii. Priyāḷa, kola, badara, pīlu	Beneficial in gaseous lumps of the abdomen and disturbance of doṣas	Paste of i. taken with curd, buttermilk, wine or a decoction of ii.
Dantī, dravantī	Beneficial in pallor, intestinal worms and anal fistula	Paste consumed with meat soup
Dantī, dravantī	Beneficial in treating diabetic boil, abscess, cellulitis etc.	Paste and decoction cooked with ghee and mixed with daśamūla

Dantī, dravantī	Beneficial in treating retention of stools, wind, semen and vātaja disorders	Mixture of four fats cooked with paste and decoction and mixed with daśamūla
Dantī, ajaśṛṅgī	Beneficial in treating fever, diabetes, burning sensation	Juices mixed with jaggery, honey and ghee and consumed as linctus
Dantī, dravantī, āmalakī	Effortless purgation	Roots cooked in āmalakī juice; the decoction and treacle cooked in heated ghee with the paste of dantī and dravantī and drugs of śyāmadi group
Dantī, dravantī	Effortless purgation	Paste packed in between a split sugarcane stem which is joined and chewed
Dantī, dravantī	Effortless purgation	Decoction consumed with alcohol
Dantī, dravantī, marica etc., ending in śvarṇakṣīrī	Effortless purgation; applicable in all seasons; for children, old people; for indigestion, chest pain, splenic enlargement, glandular enlargement in the neck etc.	Powdered and soaked in cow's urine for a week; consumed with ghee
Citraka, dantī, harītakī, trivṛt, pippalī	Beneficial in treating pallor, piles, itching rashes etc.	Powdered, mixed with jaggery and rolled into balls. Consumed with

		hot water, once a day for ten days. No diet restrictions
Dantī	Appropriate purgative for pittaja cough and pallor	Decoction made with grapes
Dantī	Appropriate purgative for jaundice	Consumed with jaggery and cold water
i. Śyāmā, dantī ii. Pippalī, citraka	Appropriate purgative for disorders of vāta and kapha, splenic enlargement, pallor etc.	Decoction of i. stored with jaggery in a vessel lined with pastes of ii.
i. Dantī, dravantī ii. Ajagandha or ajaśṛṅgī	Easy purgation	Decoction of i. prepared with jaggery and mixed with juice of ii.

GUIDELINES FOR PRESCRIPTION[20]

The above lists are indicative of a total of 355 formulations for emesis and 245 for purgation, which are derived from fifteen basic drugs (listed at the beginning of the chapter). A number of general principles on prescribing the formulations should be stated at this stage.

1. A formulation is named after its main drug constituent. Other constituents including carriers are subordinates and follow the main drug, just as subjects follow the king.
2. While a formulation should be designed to have agreeable colour, taste, smell and touch, the overruling consideration is that its properties should be opposed to those of the disorder and its perturbed doṣas.
3. To enhance potency, the main drug should be soaked in its own juice. Manipulating the drug for enhancing or decreasing potency is possible by various methods including combination, elimination, timing, processing and mode of administration.
4. The six hundred formulations mentioned in this section should be used only on expert advice. However, a resourceful physician would have no difficulty in devising countless formulations because there are countless drugs and innumerable permutations and combinations.
5. Evacuative therapy may be strong, moderate or mild, the intensity being determined by the properties of the drugs. To evoke a strong response, the drug should be undamaged by insects, fire *etc.* should accord with time and place, should be compounded with drugs of similar potency, should be given in high dose, and the patient should be prepared in advance by lubricant therapy and fomentation. Mild response occurs when the drug is low in potency and doṣage, the drugs in combination are dissimilar, and the patient has not undergone lubricant therapy and fomentation. If the drug is lacking in some of the desirable properties but the patient has undergone lubricant therapy and fomentation, a medium response occurs. The choice of

drugs of varying potencies is determined by the strength of the patient and the grade of illness which too may be severe, medium or mild.

6. If an emetic formulation fails to produce an adequate response it should be repeated until bile appears in the vomit. However, the decision to repeat or not repeat should be made mindful of the degree of perturbation of doṣas and the patient's condition.
7. If an emetic formulation is itself thrown out or is digested without emesis, another formulation should be given. Emetics expel undigested matter unlike purgatives which eliminate digested material.
8. If a purgative is digested and no purgation occurs, the formulation should be repeated. If the patient's digestive power is good the accumulation of impurities considerable, and he has undergone lubricant therapy, a regular diet should be given and the formulation repeated the next day. If, on the other hand, the patient is weak and has poor purgation despite the accumulation of impurities, laxative articles in food should be sufficient to complete the evacuative process.
9. If emesis and purgation fail to effect complete evacuation, a proper diet and other formulations should be given. It is always safer to repeat a mild drug which has few complications than give a potent and quick-acting drug with the possibility of complications. This is important because formulations may have to be repeated in the presence of retained impurities.
10. If the patient throws out the purgative formulation, he should be given gargles; when rested arid relieved, the formulation should be repeated. If the evacuation of stools is partial due to constipation, the patient should drink hot water; fomentation is called for in the presence of belching and pain with no vomiting or purgation. If the patient passes stools in large quantities even after the formulation is digested, cold measures should be applied.
11. If the formulation produces abdominal distension in a fasting patient who shows upward movement of vāta by belching etc., another formulation with a lubricant additive should be given. If the patient develops giddiness, confusion and fainting when the formulation takes effect, cold and sweet agents to settle pitta are recommended.
12. If the patient shows signs of being overlaid by kapha such as by salivation, goose-flesh and distension, sharp, hot and bitter antidotes would be beneficial.
13. In a person with a rough constitution and dominance of vāta and physical activity, constipation and good digestion may coexist and a purgative may fail to produce an effect. In this situation, an enema followed by a purgative is advisable. Individuals who are used to physical labour in the hot sun may tolerate incompatible food with ease, or a meal when the previous meal is not fully digested. They would only need lubricant therapy, not purgation. If improperly administered, a medication is no better than poison; applied properly it is very similar to nectar.
14. When a liquid carrier is not mentioned in a formulation, water is meant to be used. When proportions are not indicated, the lubricant substance should be four times the weight of the drug, and water four times the weight of the lubricant substance.
15. There are three grades of cooking lubricants. When mild, the final product tastes like the original drug; in the medium grade, the final product does not stick to the stirrer and tastes like samyava; in the maximum grade of cooking, the final product breaks into powder and is charred. The mild

grade product is good for inhalation, medium product for ingestion and enema, and the maximum grade product for massage.

16. There are two units of weights for medications. They are kaliṅga and magadha. The experts on weights claim the magadha system to be superior. The units of weights used for solid substances are given in the following table.

Table 65.13 Units of dry weights[*]

6	dhvāmsī	=	1	marīcī
6	marīcī	=	1	sarṣapa
8	sarṣapa	=	1	rakta sarṣapa
2	rakta sarṣapa	=	1	taṇḍula
2	taṇḍula	=	1	yava
4	yava	=	1	aṇḍikā
4	aṇḍikā	=	1	māṣaka
3	māṣaka	=	1	śāṇa
2	śāṇa	=	1	drankṣaṇa
2	drankṣaṇa	=	1	karṣa
2	karṣa	=	1	palārdha
2	palārdha	=	1	pala
2	pala	=	1	prasṛta
2	prasṛta	=	1	kuḍava
4	kuḍavas	=	1	prastha
4	prastha	=	1	āḍhaka
4	āḍhaka	=	1	droṇa
2	droṇa	=	1	śūrpa
2	śūrpa	=	1	goṇī
32	śūrpa	=	1	vāha
100	pala	=	1	tulā

66 *Evacuative Procedures (Pañcakarma) and Formulations*

There are five procedures: emesis, purgation, lubricant and non-lubricant enemas and head evacuation. They are considered in the following sequence.

Emesis and purgation (general guidelines, complications and management), head evacuation, suitable and unsuitable clinical conditions for evacuative procedures, enemas (general considerations, procedural details, equipment, method, formulations, complications, special enemas).

EMESIS AND PURGATION

The procedure for evacuation is more than administering a formulation. It should take into account a number of factors: What preparative steps are necessary? What are the signs of a well-conducted procedure? How many procedures are to be performed? What type of procedure should be administered for what disease? How long is the recovery period following evacuation? What factors affect the time lag between the giving of an enema and the exit of the enema fluid? These are the queries on evacuative procedures, for which answers are attempted here.

GENERAL GUIDELINES

Emesis and purgation should be performed in the proper season. The severe heat, rains and cold should be avoided and the comfortable periods in between (early rains [prāvṛṭ], autumn [śarad] and spring [vasant] consisting of two months each) should be preferred for conducting the procedures. The other guidelines to be kept in mind are listed below:[1]

- Between two evacuative procedures, the patient should undergo lubricant therapy and fomentation, ending in lubricant therapy again.
- If the lubricant therapy appears to be inadequate or excessive, it should be countered by giving lubricants and rough purgatives.
- For full effect, the evacuative drugs should be taken in the proper dose; the previous meals should have digested before taking it; the patient should have undergone lubricant therapy and fomentation and should have his mind focused on the impending procedure.
  If any of these conditions are violated, the evacuative therapy may fail or develop complications.
- The patient should take a liquid, kapha-stimulating diet the day before emesis; and a light and hot

meal before purgation.

- The signs of satisfactory evacuation are the normal, downward direction of wind in the gut, restoration of hunger and thirst, a sense of wellbeing and lightness, clarity of senses and vigour. An unsatisfactory result, on the other hand, is manifested by fatigue, dizziness, burning sensation, headache and debility. Improper dose, absence of supportive drugs, poor preparation and the use of old stock of drugs could produce undesirable effects.
- Proper administration of evacuative measures is followed by proper elimination; excessive, by severe elimination; and faulty, by poor elimination or elimination through the opposite route.
- If the drug intake is not followed by evacuation, the drug should be repeated after ensuring that the previous dose has been digested.
- Old drugs and drugs to which the patients are known to be intolerant should be avoided.
- The complications which arise due to excessive evacuation or non-response to evacuative drugs should be managed with an appropriate diet, drugs and procedures. Some of these complications would be discussed later in this section.

Before giving a formulation for evacuation, the patient should be given lubricant therapy for 3-7 days; beyond this, he would have grown accustomed to the lubricant substance, which would then cease to be effective. What the lubricant does in the preparatory phase is to settle the disturbance of vāta, soften the body and loosen the accumulation of impurities. Moreover, fomentation which follows would melt the impurities lurking in the smallest channels of the body. To trigger the movement of impurities in emesis, a preparatory diet of meat soup or blackgram and milk is advisable. In purgation, a similar diet which does not perturb kapha should be given. Dominance of kapha facilitates emesis whereas deficiency promotes purgation. Following evacuation, a light diet consisting of gruel, rice paste, soup of meat or vegetables *etc.* should be given and gradually built up in proportion to the strong, medium or mild degrees of evacuation. This is assessed in terms of the number and volume of evacuations. While eight, six and four are regarded as strong, medium and mild for emesis, the corresponding numbers for purgation are thirty, twenty and ten. The quantity of stools for the three degrees of purgation are four, three and two prasthas. The quantity of vomit is approximately half of that of stools, and the endpoint of emesis is the appearance of bile or yellow colour in the vomit. Purgation, on the other hand, stops with kapha. The quantity should be assessed after the first two or three instalments of stool, and after the drug has been thrown up in emesis. When emesis is completed satisfactorily, the patient would feel lighter and enjoy the feeling that the heart, sides, head, senses and channels have been cleared. While unsatisfactory emesis may lead to rash, urticaria, itching and a sense of heaviness of the body, too much vomiting may result in severe thirst, confusion, loss of sleep and fainting. In purgation, adequate evacuation is suggested by lightness, opened channels, cleared senses, return of appetite and the passage of stools as pitta, and kapha and vāta, one after the other. Unsatisfactory purgation vitiates the doṣas and causes loss of appetite, heaviness, nasal congestion, drowsiness and retention of wind. If the purgation is excessive, the patient would have clinical features including bodyache, tiredness, tremor, loss of sleep, unconsciousness, excitement and hiccup.[2]

Complications and management

Complications of evacuative measures mainly arise from errors such as overuse, underuse or misuse

of therapy. Several examples with hints on their management are given below:[3]

Table 66.1 Management of complications[4]

Errors in therapy	Clinical features	Hints on management of complications
Old drug: inadequate dose in a lubricated and fomented patient	Evacuation absent or inadequate	Massage with oil and salt; fomentation; repeat drug; non-lubricant enema; meat soup diet: vāta-relieving lubricant therapy
Potent drug in a patient with soft bowel habits, hunger	Quick and excessive elimination; weakness, dry throat, dizziness, thirst	Sweet drug to eliminate remaining drug by emesis or purgation; sprinkling of cold water; sweet and cold drugs; special drink, liquid diet and enemas
Random errors	Excessive vomiting	Cold water sprinkling; mildly fermented drink with ghee, honey, sugar and fruit juice
Random errors	Frequent vomiting	Powder of dhānyaka, mustā, madhuka, anjana with honey
Low dose of drug formulation in a patient with gross collection of impurities, poor digestive fire	Severe abdominal distension, pain in the abdomen and sides; retained stools, wind and urine	Massage, fomentation, non-lubricant enema
Potent drug formulation in a patient with hard bowels, poor digestion, debility	Expels the half-vitiated excreta quickly; colic, mucus and blood in stools	Digestive, rough, hot and light diet in the presence of poor digestion; promotive and sweet diet and drugs for patients with roughness
Low-dose drug formulation when impurity is bulky; impurity broken but not evacuated	Itching, swelling, skin rash, poor appetite pallor (parisrāva)	Lubricant therapy, emesis, purgation, āsavas/ariṣṭas in that order

Suppression of urges after taking drug formulations	Tightness in the heart region, hiccup, cough, anxiety, biting tongue, loss of consciousness while cleaning teeth	Sweet and pungent emetics for pittaja and kaphaja disorders; digestive drugs and food
Highly potent drug formulation to a patient with soft bowel	Blood in vomit. If the vomit mixed with food is eaten by crows or dogs, it contains blood; when a white cloth is soaked in it, dried and and washed in warm water, bloodstain would disappear whereas pitta stain would diminish but not disappear	Pitta-relieving measures; ingestion of the blood of cow, deer etc.; same blood with darbha juice as enema; other medicated enemas with plant decoction also could be given; very cold mucinous enema beneficial
Severe purgation	Prolapsed rectum	Replace after lubrication and stabilisation by applying astringent drugs
Rough, purgative formulations given to a weak patient	Pain and stiffness of the body, fainting	Vāta-relieving measures; lubricant therapy, fomentation
Weak drug formulation in a patient who had lubricant therapy and has soft bowel habits	Drowsiness, heaviness, tiredness, kapha perturbation	Immediate emesis followed by fasting, digestive drugs; effective, lubricant evacuation in that order

A wise physician should know how to treat complications when prescribing evacuative measures.

HEAD EVACUATION[5]

After a course of evacuative procedures is over, the patient should be given lubricant therapy. His head should then be gently warmed with the hand and head evacuation carried out once, twice or thrice a day in proportion to the degree of perturbation of doṣas. When properly performed, head evacuation lightens the chest and head, clears the senses and opens body channels. If not the patient would experience stickiness in the throat and heaviness of head. If the procedure is overdone, it may give rise to headache, pain in the eyes, temples and ears. Inadequate evacuation should be managed by lubricant therapy and stimulant drugs while excessive drainage should be treated with soothing drops.

SUITABLE AND UNSUITABLE CLINICAL CONDITIONS FOR EVACUATION

A physician should refuse to perform evacuation in certain types of patients lest it should bring him dishonour. These include the wild, the adventurous, the panicky, the ungrateful, the overanxious, the overwrought, the inimical to the King and physicians and despised by them, the moribund, the indigent who have no means to get treated, the enemy, the quack, the disloyal and the uncompliant.[6]

Apart from the general caveat, evacuative procedures would be successful only to the extent the patients are suitable for therapy. Indeed the procedures would be attended by serious complications if carried out in unsuitable patients. The considerations relating to suitability of the candidates for evacuation are tabulated below:

Emesis[7]

Unsuitable for emesis	Consequences of emesis
Chest wound	Coughing up more blood, exacerbation of wound
The emaciated, very obese, children, the elderly	Worsening of illness
Those who are exhausted, thirsty and hungry	Worsening of complaints
Those already subjected to evacuative therapy, load bearers, those addicted to fasting, sexual intercourse and physical activity	Aggravation of vāta, bleeding
Pregnant women	Abortion, damage to fetus
Delicate/weak persons	Vomiting or passing of blood in stool due to pressure on the heart
Upset stomach with vomiting	Internal inflammation, numbness, stupor, death
Severe vomiting or vomiting of blood	Udāna moves up and blows out vital breath
Post-enemas	Severe disturbance of vāta
Heart disease	Obstruction to heart function
Retention of urine	Severe pain
Poor vision	Increased loss of vision

However, the physician is not barred from considering emesis even in the presence of some of the above features if the patient has ingested poison, toxic substances or incompatible food.

The conditions which should be treated with emesis are listed below:

Nasal congestion	Bleeding per rectum
Skin disorders including leprosy	Piles
Acute fever	Loss of appetite and indigestion
Cough	Epilepsy

Asthma type breathing	Insanity
Congested Swelling in the neck (galaganḍa)throat	Swelling Pallor disorders
Swelling in the leg (ślīpada)	Breast milk disorders
Polyuria	Oral inflammation
Food poisoning	Poisoning by bites or local applications

Purgation[8]

Unsuitable for purgation	**Consequences of purgation**
Lax perineum	Bleeding
Injury to anus or rectum	Severe pain; may be fatal
Loose rectum	Severe diarrhea; may be fatal
Bleeding per rectum	Increase in bleeding: may be fatal
Body lightened, senses weakened, digestion poor, post-non-lubricant enema	Drug poorly tolerated
Emotional stress	Drug action weak
Acute fever	Drug fails to eliminate immature doṣas, vitiates vāta
Alcohol addiction	Already weakened life breath may be obstructed by vāta
Abdominal distension	May aggravate the distension, or be fatal
Injury, foreign body in the wound	Vāta in the wound may aggravate and put an end to life
Excess lubricant therapy	Severe purgation
Rough constitution	Vāta may cause stiffness

Severe constipation	May excite doṣas, which may produce generalised disturbance and turn fatal

Purgation is beneficial in many conditions, as the following list would indicate:

Leprosy	Swelling in the neck
Fever	Tumour
Diabetes	Glandular enlargement
Vomiting blood	Diarrhea
Anal fistula	Retention of urine
Piles	Worm infestation
Splenic enlargement	Cellulitis
Gaseous abdominal lumps	Jaundice
Pallor	Seizures
Pain in the sides	Insanity
Upward movement of wind	Female genital disorders
Heart disease	Seminal defects
Shortness of breath	Vision defects
Cough	Loss of appetite
Swelling	Indigestion
Pittaja disorders of abdomen	

ENEMA

Non-lubricant enema[9]

Unsuitable for non-lubricant enema	**Consequences of non-lubricant enema**

Indigestion: after strong lubricant therapy: after ingestion of too much fat	Abdominal disorder due to perturbed doṣas, fainting, swelling
Excited doṣas, weak digestive fire	Complete loss of appetite
Fatigue from travel, weakness, hunger, thirst	Enema disrupted, dehydration
Emaciation	Worsens emaciation
Irritation in the gut due to water, vāta and food	Irritation may spread upwards with severe complications
Completed course of emesis and purgation	Burning up of the body like an alkali
After snuffing or head evacuation	Blocking of channels
Emotions such as anger, fear	Enema fluid may travel unduly upwards
Stupor, fainting	Consciousness level fluctuates, mental trauma
Incessant vomiting; shortness of breath; cough	Enema fluid may move unduly upwards
Obstruction, perforation of gut, abdominal distension	Severe distension and death
Premature delivery, diarrhea due to indigestion *etc.*	Inadequate response
Diabetes, leprosy	May deteriorate

Non-lubricant enema is beneficial in the treatment of the following conditions (partial list).

Vātaja disorders - general, local including abdominal	Anal fistula, heart disease, insanity, fever
Retention of urine, feces, wind and semen	Pain in the sides, tremor, convulsions, heaviness
Depletion of strength, complexion, muscles and semen	Arrest of menstrual periods in the absence of pregnancy
Abdominal distension	Pain, wasting of lower limbs

Numbness of limbs	Female genital disorders
Worm infestation	Pain in the joints
Diarrhea	Splenic enlargement

Lubricant enema[10]

Those not suited for non-lubricant enema are also unfit for lubricant enema. A representative list of conditions and consequences of treating the unfit follows:

Unsuitable for lubricant enema	**Consequences of lubricant enema**
Empty stomach	Lubricant additive moves upwards and blocks the passage for enema
Acute fever, jaundice, pallor, diabetes	Excites doṣas and sets off abdominal complaints
Piles	Causes obstruction and abdominal distension
Loss of appetite	May worsen
Low digestive power	May worsen
Splenic enlargement	May complicate the disorder

Those who are fit to receive non-lubricant enema are also fit for lubricant enema.

HEAD EVACUATION[11]

Unsuitable for head evacuation	**Consequences of head evacuation**
Indigestion, full stomach	Impurities block the upward flow in channels and cause vomiting, shortness of breath *etc.*
After intake of lubricant substances, before taking wine or water, after head evacuation	Discharge through mouth and nose, faulty vision, head diseases
Bathed the head before, or intent on taking a bath after	Nasal congestion

Hungry, thirsty	Perturbation of vāta increases
External injuries	Pain worsens
Fatigue from physical work, sexual intercourse	Pain in the head, eye, shoulder *etc.*
Heat of fever the emotional stress of grief	Visual defects, worsening of fever
After lubricant enema	Heaviness of head, worm infestation
Pregnant women	Stillbirth, birth defects of fetus
Unsuited season, bad weather	Foul-smelling nostrils, head diseases

An illustrative list of conditions where head evacuation is useful follows:

Stiffness in head and neck	Tongue deformity
Congestion of nose and throat	Disorders of lids, vision
Stiffness of jaw	Hoarse voice
Inflammation of palate, tonsils	Facial paralysis
Seizures, looseness of teeth, tumour	Migraine, disorders of head, neck and shoulders
Stammering and loss of speech	

Medicated snuff should be used only for urgent reasons if the season is not early rain, autumn or spring. Medicated snuff should be used only if absolutely necessary. The time of preference for use is forenoon in summer, and noon in winter and rainy season.

Even though detailed instructions exist, a physician should not act without using his reasoning faculty. Success that comes in the absence of reasoning is no more than an accident.[12]

ENEMAS

GENERAL CONSIDERATIONS [13]

Enemas are lubricant and non-lubricant in character, and both should be administered by skilled physicians. The practice of enemas is bound by general guidelines, procedures and precautions, which are outlined below:

1. As a rule, a patient should be given a lubricant enema following regular meals and oil massage,

and after three days of a non-lubricant enema when he is free from severe hunger. When enema is over he should be given meat soup or other appropriate light diet. If the patient is strong, and if necessary, a lubricant enema could be repeated at night.

2. Lubricant enemas should be administered during day time in winter and spring; and during the night in autumn, summer and rainy seasons. After the enema is over, he should fast overnight and eat two meals the next day. The lubricant enema should be repeated on the second, third or fifth day. If a non-lubricant enema has been given, lubricant enema should again be given on the second, third or fifth day.
3. In diseases due to perturbed kapha, pitta and vāta, the lubricant enemas to be given number one to three, five to seven and nine to eleven, respectively.
4. After successful purgation, non-lubricant enemas should be avoided for seven days; conversely, purgation should be avoided for an equal period after a non-lubricant enema.
5. Non-lubricant enema is applicable to all (children, adults and the old) and is beneficial in the treatment of many disorders. It eliminates feces, mucus, bile, wind, urine and impurities collected in many parts of the body. It adds to the store of semen, makes the body strong, promotes digestion, improves voice and colour, and makes for a pleasant life.
6. The non-lubricant enema should be followed by lubricant therapy which is very effective in vàtaja disorders by virtue of lubricant properties which are opposed to those of vāta. The lubricant therapy at this stage confers many advantages including strength, energy, clarity of mind and bulk.

   Because of its properties of lubricity, heaviness and heat which are opposed to the properties of vāta, lubricant enemas are especially beneficial in chronic bone and joint disorders involving stiffness, lameness, dislocation *etc*. It is also useful in treating abdominal distension, colic, aversion to food and other disorders of the gut. It is equally beneficial for women who fail to conceive.
7. Those who are tormented by heat and cold could get relief through cold and warm enemas.
8. Bulk-promoting, nutritive enemas should not be given when evacuation is necessary in situations such as leprosy or obesity. Nor should it be given to patients suffering from wasting, phthisis, fainting *etc*.
9. Vāta is the prime cause of disorders affecting the limbs, bowels and vital organs. It is also responsible for the collection and dispersal of feces, urine, bile and other body fluids within their seats. There is no procedure better than enema to settle the perturbed vāta in these situations.
10. A properly administered enema moves up to the navel, sides and belly, breaks up feces and impurities, lubricates the body, and returns with feces and impurities. This is attended by excellent results as mentioned earlier. A failed enema gives rise to headache, pain in the anus, hips and penis, retention of wind and urine, and shortness of breath.
11. When a lubricant enema is correctly given, the oil returns with feces, and the patient gains clarity of senses, sound sleep, lightness, strength and cessation of urges. An incorrectly performed procedure, on the other hand, causes pain in the lower part of the body and sides, roughness and

failure to pass stools, flatus and urine. Excessive use of oil may also lead to nausea, exhaustion, pain, confusion and fainting. The oily substance used for enema should stay within the body for nine hours for a successful procedure; if it returns immediately, the enema should be repeated.

12. Enemas are classified into three on the basis of repetitions. Regimens of eight, sixteen and thirty are called yoga, kāla and karma. They consist of the following.
    Yoga: One lubricant enema in the beginning and the end; three lubricant and three non-lubricant enemas alternate in between.
    Kāla: One lubricant enema to begin with and three at the end, six lubricant and six non-lubricant procedures alternate in between.
    Karma: One lubricant enema is followed by twelve lubricant and twelve non-lubricant enemas, and concluded by five lubricant enemas.
13. Vātaja disorders should be treated by three to six lubricant followed by non-lubricant enemas to cleanse the gut and body channels.
14. The enema may fail because the tip of the pipe is blocked with piles, mucus or feces, or if the pipe is improperly inserted. These should be checked. Similarly enema should not be given when the patient has the urge to evacuate or vāta is badly perturbed, fluid is hot, and the bowels are soft.

When the patient undergoes enema therapy, he should refrain from excess of sitting, standing or speaking, journeys in vehicles, sleep during the day, sexual intercourse, suppression of urges, incompatible food and hot sun.

PROCEDURAL DETAILS

Equipment: The pipe should have three rings on its surface at intervals and be made of metals, bamboo, horns, gems *etc.* It should be of six, twelve and eight finger-breadths long for individuals of six, twenty and twelve years, and should have an opening at the tip that would allow the passage of a greengram, jujube seed and pea, respectively. It should be as large as the thumb at the base and as small as the little finger at the tip according to the age of the patient. It should be straight, tapering like a cow's tail, polished and rounded at the tip. One ring on the surface should be one-fourth the distance from the tip, and the other two at the base for fitting a pouch. A stylet should be inserted to keep the channel closed in the pipe.

The bag for enema fluid should be fashioned from the urinary bladder of aged bull, deer, goat or buffalo. It should be secure, thin, soft, unsoiled, with faded vessels, without smell, and of saffron colour. The size of the bag should be according to the age of the patient. It should be fixed to the pipe firmly with thread. If necessary the neck of the bird plava, bat skin or thick cloth could also be used to make a bag.

Method: An expert in the procedure should schedule the non-lubricant enema on an auspicious day in the bright fortnight when the patient's previous meal has been fully digested and his mind is well focussed. The bag should then be filled with the following formulation which should be stirred.

Formulations	Remarks

i. Balā, guḍūcī, triphalā etc., ending in madana fruits ii. Yavāni, madana fruits, bilva etc., ending in pippalī	Group i. boiled in water with goat's flesh and concentrated and filtered; paste of ii. added and mixed with jaggery, lubricant, honey and rock salt

The patient should have had an oil massage and relieved himself before being made to lie down on a low cot covered with a sheet. The cot should have a stepping stool and its head end should face east and be slightly lower than the foot end. The patient should then lie down comfortably on his left side with his own hand as a pillow. His right leg should be folded, the left leg straightened and the anal opening lubricated. The stylet should be removed and the pipe introduced up to the ring at one-fourth distance to a depth of one-fourth of the pipe. The insertion should be done steadily, slowly and skillfully in a direction parallel to the backbone. The bag should then be squeezed taking care with the middle of the thumb that wrinkles on the bag do not close the channel for the passage of fluid. The fluid should be squeezed in one movement and the pipe removed.

Inappropriate positioning of the pipe can injure the rectum and anus and result in the exit of the fluid; if the bag is squeezed too slowly the fluid may not reach the colon, and if done too vigorously, it may reach the throat. Cold enema may elicit a spastic response while hot fluid may scald the passage; If it is too lubricant, sluggishness may occur and if too rough, vāta may be perturbed. Too much dilution attenuates the effect whereas high concentration weakens the patient. Too much salt triggers diarrhea. All these pitfalls should be avoided.

As the lower gut and rectum are situated on the left side, a left-sided position of the patient helps in easy passage of enema fluid. If the patient feels the urge to pass stools or flatus when the fluid is being administered, the pipe should be taken out and the patient permitted to evacuate. Thereafter the pipe should be reintroduced and the procedure resumed. After the fluid has been administered, the patient should lie down on his back and let the medication spread in the whole body.

The first enema eliminates vāta, the second pitta, and the third kapha (in that order). After evacuation, warm water should be sprinkled over the patient who should take a light diet of śāli rice and meat soup. In the evening, a light meal should be followed by a lubricant enema which consists of oil processed with sour and vāta relieving substances. The buttocks should then be rubbed with the hands to prevent premature elimination of fluid. The toes, feet, legs and other parts which hurt should be massaged gently with oil and the patient allowed to go to sleep. The dosage and composition of the enema fluid should be adjusted to the age and clinical status of the patient as per directions.

FORMULATIONS FOR NON-LUBRICANT ENEMAS[14]

Formulations	Actions	Remarks
Daśamūla	Relieves vātaja disorders	Decoction with the soup of goat meat and sour substances; added to the paste of daśamūla and three fats
i. Laghu pancamūla, balā, paṭola etc., ending in yava ii. Priyaṅgū, pippalī, mustā	Good for digestion, vision and muscle development	Decoction of i. mixed with meat soup and concentrated by heating; mixed with paste of ii. and oil, ghee, honey and rock salt
i. Eraṇḍa root, laghu pancamūla, rāsnā etc., ending in madanaphala ii. śatāhva, hapuṣā, priyaṅgū etc., stones, kapha ending in mustā (eraṇḍa basti)	Improves appetite, relieves pain in the back, thighs and legs, obstruction to stools urine and urine, urinary disturbances, piles etc.	Group i. boiled in water and concentrated; mixed with the paste of ii., honey, salt, oil, cow's
Goat's meat, yavāni, madana fruits, bilva etc., ending in pippalī	Enhances strength, colour, semen, digestion, vision	Soup cooked in oil and ghee; curd and pomegranate juice mixed

		with the paste of yavāni etc., mentioned under method for enema; both are mixed for use
i. Palāśa ii. Vacā, māgadhikā, śatāhva	Improves strength and colour; relieves constipation, gaseous abdominal lumps, female genital disorders	Palāśa decoction boiled in water and concentrated; paste of ii. added with rock salt, honey and oil
Madhuyaṣṭī, śatāhvā, madanaphala, pippalī	Beneficial in vāta rakta disorders, cellulitis and hoarse voice	Milk boiled with the drugs, with ghee and honey
Madhuyaṣṭi, lōdhra, uśira, lotus and water lily	Beneficial in pittaja disorders	Milk boiled with drugs; mixed with sugar, honey and paste of jīvanīya group
i. Candana, padmaka, ṛddhi etc., ending in śarādi in pancamūla ii. Jīvanti, mēdā, ṛddhi etc., ending in candana	Settles pittaja disorders such as internal and menstrual bleeding; jaundice, heart disease	Group i. boiled and concentrated; milk added and cooked further until no water remains; paste of ii. added with ghee, honey and rock salt. Cooled and administered
i. Drāksa, ṛddhi, kāśmarya etc., ending in śītapākya ii. Śrāvaṇī, mudgaparṇī, tugā etc., ending in wheat flour	Relieves pittaja disorders	Milk boiled with i. and mixed with paste of ii. and honey, ghee, madhuyaṣṭī oil, vidari and sugarcane juices and jaggery
i. Kosataka, āragvadha, devadāru etc., ending in bṛhati ii. Sarṣapa, elā, madana, kuṣṭha, madanaphala oil	Relieves kaphaja disorders; poor appetite	Decoction of group i. mixed with cow's urine; paste of ii. added with rock salt, yavakṣāra and oil
i. Daśamūla, triphalā, bilva, madanaphala ii. Indrayava, pāṭhā, madanaphala, mustā	Important enema which removes kaphaja disorders such as pallor,	Decoction of i. mixed with cow's urine; paste of ii. added with rock salt, yavakṣāra and oil

	retention indigestion,of urine and flatus	
i. Rāsnā, guḍūcī, eraṇḍa etc., ending in triphalā ii. Madhuyaṣṭī, pippalī, priyaṅgū etc., ending in mustā	Beneficial in worm infestation, diabetes, indigestion, kapha and vāta disorders; promotes strength	Decoction of i. mixed with decoction of madanaphala, cow's urine and paste of ii., rock salt, ghee, honey and oil
i. Punarnavā, eraṇḍa, vāsā etc., ending in daśamūla ii Bilva, barley, kola fruits etc., ending in dhānyaka iii. Vacā, śatāhvā, devadāru etc., ending in madana	Relieves two or three perturbed doṣas	Group i. crushed, washed and boiled with ii., milk and water and concentrated; strained and mixed with the paste of iii., jaggery, rock salt, honey, oil and ghee

To conclude, a vātaja disorder requires one enema (lubricant, hot and with meat soup), pittaja needs two (sweet and cold with milk) and kaphaja three (pricking, hot and rough). No more should be needed. In each of the three perturbations, an appropriate diet should be given after the course of enemas.

FORMULATIONS FOR LUBRICANT ENEMAS[15]

An illustrative list follows:

Formulations	Actions	Remarks
Śatāhvā, barley, bilva	Relieves vātaja disorders	Oil cooked with the drugs and sour substances
Ghee, rock salt	Relieves vātaja disorders	Heated and used
Jīvantī, madana, medā etc., ending in vacā	Promotes weight gain, digestive power and semen; relieves vāta, pitta, urinary and menstrual disorders	Cooked with milk, oil and ghee
Madana, kuṣṭha, śatāhvā etc., ending in rāsnā	Relieves upward movement of air, splenic enlargement, severe constipation, renal stone	Ground with rock salt and castor oil and cooked; other oils could be added
Viḍaṅga, eraṇḍa, haridrā etc., ending in puṣkaramūla	Relieves skin diseases, worms, piles, impotence; improves digestion; beneficial to those weakened by excessive activity, diminution of semen etc.; firms up the body	Oil cooked with the decoction of drugs; used for ingestion, massage and enema

COMPLICATIONS OF LUBRICANT ENEMAS AND GUIDELINES FOR THEIR MANAGEMENT[16]

Lubricant enema may develop six complications in six different conditions in the body. In each of these conditions, the course of lubricant enema is blocked; if pressed when the stomach is empty, it may move upwards. The clinical features of each condition and suggestions on management follow:

Vāta disturbance

Bodyache, fever, abdominal distension, numbness, pain in the thighs and sides appear. The patient should be given a corrective enema-sour, salty, hot, lubricant/non-lubricant; of sauvīraka, urine, horsegram, cow's urine *etc.* After evening meals, a lubricant enema with the same oil should be repeated.

Pitta disturbance

Clinical features include burning sensation, redness, thirst, fever, confusion and so on. Sweet and bitter enemas are beneficial.

Kapha disturbance

Marked by drowsiness, fever with chills, loss of appetite, heaviness *etc.* The patient would respond to astringent, sharp and warm enema with wine, cow's urine, madanaphala oil and sour substances.

Bulky meal

The telltale signs include vomiting, fainting, loss of appetite, colicky pain, drowsiness and other evidence of indigestion. The treatment should consist of pungent drugs, powdered salts and mild purgation.

Fecal impaction

The clinical features are retention of feces, wind, and urine; pain, heaviness and abdominal distension. The treatment includes lubricant therapy, fomentation, application of suppositories, lubricant and non-lubricant enemas with daśamūla group of drugs.

Fasting (empty stomach)

When the rectum is empty, an enema applied with force may drive the fluid upwards beyond the throat and bring it out as vomit. A non-lubricant enema composed of cow's urine, śyāmā, trivṛt, barley, jujube and horsegram followed by a lubricant enema with the same lubricant substance would be the appropriate therapeutic measure in this situation. Cold applications, massaging the throat and purgation could also be effective.

During convalescence following complications, the patient should take a liquid, hot, light, lubricant and agreeable diet and receive a lubricant enema every third day. He should refrain from eating at night and take water boiled with coriander and ginger in the morning. Hot water would help in digesting undigested fat, melting kapha and correction the direction of wind.

Those who take rough food regularly, have a strong appetite and engage in heavy physical activity are likely to get vātaja disorders such as pain in the hips and groin and upward movement of vāta. They may benefit from daily lubricant enemas. However, a lubricant enema should not be used uncooked lest it should make the anus greasy. Nor should a lubricant substance be administered simultaneously through the anus and the mouth. Another precaution is not to use non-lubricant or lubricant enema exclusively because the former would perturb vāta and the latter would kill digestive fire. They should therefore be applied one after the other. The lowest dose of fat administered is called mātra basti which is free from complications and is especially beneficial to those suffering from overwork, long journeys, sexual excess and other physical stresses.

COMPLICATIONS DUE TO FAULTY EQUIPMENT [17]

An enema may fail because of the use of faulty equipment. The pipe may be too short, too long, too thin, too old or cracked with extra holes and loosely fixed. On the other hand, the bag may be fleshy, torn, too thick, perforated or greasy. Due to the defects, the enema may turn out to be a mess with leakage, foul smell, froth formation and other undesirable effects. The fault could also lie with the practitioner who may misdirect the pipe, use pressure on the bag unevenly, too weakly or too quickly. The unskilled use of enema may produce colicky pain which should be managed by vāta-relieving

measures, oil massage, and fomentation of the perineal region. If the blockage of the pipe occurs due to misdirected insertion, it should be withdrawn and reintroduced correctly. If interrupted half-way and the patient develops distress in the chest and pain in the thighs, an enema consisting of daśamūla, madanaphala, śyāmādi drugs and cow's urine should be given. If the anus gets injured and appears tremulous and swollen, irrigation with cold, astringent fluids should be done for the patient's relief. Overinsertion of the pipe with damage to the internal folds and prolapse of the rectum should be managed with a ghee-soaked plug, milk and lubricant enema. If inadequate insertion results in a failed enema, the pipe should be reinserted properly and enema repeated; high-pressure injection of fluid which leads to discomfort, upward movement of fluid to the throat and vomiting would call for purgation, repeat enema, massage of the throat and other supportive measures.

COMPLICATIONS DUE TO METHOD [18]

There are twelve other misapplications of enema which may give rise to several complications. They are listed below with the elements of their management.

Retention of stools

If the enema is cold and inadequate in constituents and volume, or is given in the presence of much wind and hard stool, the fluid stimulates, but does not expel the excreta. The patient then develops retention of stools, wind, urine, pain in the lower abdomen, loss of appetite, pressure on the heart, swelling of the anal region and other symptoms. The remedy consists of drinks which improve digestion, fomentation, madanaphala suppository, purgation and a vāta-relieving enema mentioned earlier.

Profuse stools, dehydration, giddiness

These symptoms occur when a potent enema is given to a person with delicate bowel habits, who has undergone lubricant therapy and fomentation duly. Apart from supportive measures as for severe purgation, the following formulation is effective for treatment.

Pṛśniparṇī, śālaparṇī,lotus etc., ending in madhūka	Ground and dissolved in milk, rice water, drāksa juice; heated; madhuka and ghee added

Exhaustion

In the presence of indigestion, a non-lubricant enema may further excite the impurities and perturb vāta, kill the digestive fire and cause exhaustion, cramps, confusion, pain in the heart region and other symptoms. The conditions should be managed with fomentation, appetisers, and drinks of water boiled with pippalī, kaṭṭṛnā, uśīra, devadāru and mūrvā. Another formulation consists of devadāru, trikaṭu, harītakī, palāśa, citṛaka, śatī and kuṣṭha which should be ground and used with cow's urine. Enema of daśamūla with cow's urine is also beneficial.

Abdominal distension

When a mild enema is given to a patient with much accumulation of impurity, the passage of fluid and vāta is blocked. The blocking and reverse direction of vāta gives rise to severe abdominal distension, acidity, pain in the abdomen, groin and scrotum. A suppository of śyāmādi and phalādi drugs with

kuṣṭha and other plant drugs and substances should be used after lubricant therapy and fomentation. Non-lubricant enema followed by a lubricant enema with formulations as recommended should also be given.

Hiccup

This occurs when a potent enema is given to a patient with delicate bowel habits. The general treatment for hiccup should be given besides lubricant enema with the recommended formulation and other additives. The patient should also take pippalī powder and salt with hot water. Vāta-relieving smoke, linctus, fomentation and diet are also beneficial.

Pressure on the heart

When a potent enema is given and vāta is perturbed, it presses on the heart. Oral intake of the decoction of kāśa, kuśa, amlaskandha drugs etc., and a lubricant enema are beneficial.

Upward movement of air

If the patient suppresses the urge to evacuate after the enema or the fluid was injected at high pressure, the fluid would come out through his mouth as projectile vomiting. The patient's face, abdomen and sides should be immediately washed with cold water. He should then be shaken (held by his hair) and startled by the sight of wild animals or a royal messenger until the fluid resumes its downward course. The throat should be squeezed with the hand, or a cloth wrapped around, stopping short of strangulation, to block prā ṇa and udāna and to induce apāna to pull the fluid downwards. This should be followed by the administration of kramuka paste with sour additives and appropriate non-lubricant enemas. Snuff and the application of mustard paste to the head could also be beneficial.

Tenesmus

If an enema was inadequate in volume or formulations and the patient had plentiful impurities and had undergone lubricant therapy and fomentation, partial evacuation occurs followed by tenesmus. He may have swelling of the anal region, retention of wind and pain. He should be massaged and fomented and given a non-lubricant enema.

Headache

Severe headache, ringing in the ears, nasal congestion and rolling of eyeballs occur when an enema - cold and inadequate in volume and formulations - is given to a patient who is emaciated, severely constipated and ill. Thereupon, vāta is obstructed in its channels and moves up to the head to produce various symptoms. Massage with salt and oil, head evacuation, lubricant therapy followed by lubricant enema should form the basic approach to treatment.

Body cramps

If the patient has had no prior lubricant therapy or fomentation and receives a potent enema, he would pass stools profusely. This would make the gut immobile with the reverse movement of vāta all over the body, cramps, twitching and pain. The treatment should consist of massage with oil and salt, irrigation with hot water and fomentation. Appropriately medicated, the patient should receive a non-lubricant enema followed by relaxation and bath in a tub. A lubricant enema should follow.

Sharp pain

A potent and high-volume enema in a person with scanty impurities and a sensitive bowel would

produce evacuation quickly This could be followed by a sharp and piercing pain in the lower back, groin, and lower abdomen and irritation of the urinary bladder. The patient should be given milk boiled with sugarcane or sweet substances and the paste of sesamum and madhuyaṣṭi. Appropriately medicated enemas should also be given.

Blood-stained discharge

If the patient suffers from blood and pitta disorders and a hot, saline enema has been given, the anus and rectum could get scalded and give rise to the passage of a large quantity of blood, mucus and bile per rectum. The patient could even lapse into coma. For treatment, an enema of goat's milk boiled and cooled with śālmalī and ghee, or other formulations should be given. Cold and sweet irrigation and massage with oil in the anal region would also be beneficial.

Enemas are so beneficial that they capture impurities from the head to the foot and bring them to the gut even as the sun draws up the juices of the earth to the sky.

SPECIAL ENEMAS

PRĀSṚTA [19]

There is a class of soft and largely lubricant enemas which are given for various conditions to patients with delicate bowel habits and those who are weakened by evacuative therapy. These enemas are designated as prāsṛta and share the property of all constituents weighing 80 grams or multiples thereof. The formulations are given below (weights of constituents omitted in the table.)

Formulations	Actions	Remarks
Milk, honey, oil, ghee	Relieves vāta troubles; improves strength	Stirred; given as enema
Oil, wine, honey, ghee, decoction of bilvādimūla and horsegram	Relieves vāta troubles	Stirred; given as enema
Pancamūla, oil, honey, ghee	Relieves vāta troubles	Stirred; given as enema
Rock salt, honey, oil, milk, ghee, hapuṣā	Promotes semen	Non-lubricant enema

Paṭola, nimba, bhūnimba, rāsnā, saptaparṇa (pancatikta)		Decoction mixed with ghee and mustard paste. Non-lubricant enema
Viḍaṅga, triphalā, śigru seeds, mustā, ākhuparṇi	Effective in treating worms	Decoction stirred with oil; mixed with paste of viḍaṅga and pippalī
Payasyā, sugarcane, śālaparṇī, rāsnā, vidāri	Promotes semen	Juice mixed with honey and ghee and paste of pippalī
Oil, cow's urine, top layer of curd, sour gruel	Breaks hard stools	Stirred with mustard paste; given as enema
i. Gokṣurā, pāṣāṇa-bheda, eraṇḍa ii. Madhuyaṣṭī, kauntī, māgadhika, śaṛkarā	Clears painful urination, constipation	Decoction of i. mixed with oil and surāsava; paste of ii. added and used for enema

If a mild enema evokes poor response, a potent enema should be given; conversely a potent enema, followed by abundant response, should be treated by a mild and sweet enema.

ENEMAS IN THE TREATMENT OF DIARRHEA [20]

There are six types of diarrhea caused by inadequate digestion, voluminous and mature stools, wind, blood, bile and mucus. They are subdivided into thirty types based on the features of specific doṣa perturbation. Moreover there are complications including tenesmus, colicky abdominal pain and fever. The treatment for the main varieties of diarrhea is indicated in the following table.

Features of diarrhea	**Components of therapy**
Severe diarrhea, undigested stool, foul smell, colic	Decoction of mustā, ativiṣā, kuṣṭha, tagara, devadāru, vacā to be taken orally; enema barred
Large volume, mature stools (vāta perturbation)	Astringent drugs and enema with vāta relieving drugs such as daśamūlādi
Blood in stools	Blood enema
Pitta in stools	Astringent, sweet and bitter drugs in enema
Kapha (mucus) or bile in stool	Astringent, pungent and bitter drugs in enema
Bile in stool	Astringent, pungent and bitter drugs in enema

There are several combinations of the above six types of diarrhea, and each combination is treated by specific formulations.[21] When features of all the six types are present in a seriously ill patient, a formulation incorporating all six rasas should be administered orally. Similarly when all the factors

except inadequate digestion are present in a diarrheal condition, drugs with all the six rasas should be given as enema.

As enemas supplement the role of formulations in treating diarrheas, some of the formulations are given below.

Formulations	Actions	Remarks
Unripe fruits of udumbara, bark of jambu āmra, etc., ending in lac and mud	Relieves all types of diarrhea	Ghee cooked with milk and paste of all the items
Kacchurā, dhātaki, bilva etc., ending in leaf buds of aśvattha	Relieves all types of diarrhea	Prepared as gruel by boiling in water
Vaṭā, udumbara, aralu, etc., ending in balā	Relieves all types of diarrheas	Prepared as gruel by boiling in water
Lentils; decoctions of laghu pancamūla, vaṭādi, ikṣvādi group of drugs	Relieves all types of diarrheas	Gruel of lentil made with decoctions of the drugs separately
Kacchurā root, śāli rice	Relieves all types of diarrheas	Gruel prepared; mixed with curd, buttermilk, milk, or sugarcane juice; sugar, honey, ghee, seeds of marica and cumin added

[22]

ENEMA [23]

Among all forms of therapy there is none equal to enema which evacuates quickly and easily, adds or subtracts rapidly, and is free from harmful effects. Applied properly, it would settle the disorders for which it was chosen. It stands in contrast to purgation, which has several drawbacks such as nausea, belching, unpleasant taste and griping pain in the abdomen. Moreover, purgatives are unsuitable for children and for the old. For all these reasons non-lubricant enema is the best form of treatment which imparts strength, good colour and suppleness to the body.

Enemas are of three types - lubricant, non-lubricant and urethral or vaginal.[24] They are especially beneficial for those suffering from vāta troubles in the limbs such as stiffness, fixed and deformed joints, dislocation *etc.* They are also suitable for treating visceral conditions including retention of feces, abdominal distension and loss of appetite. Enemas have two roles (evacuative and promotive), which should guide its choice for a given patient. For example, the obese and those with leprosy and diabetes need evacuation, not promotion, while the wasted, the wounded and the dehydrated call for promotive enemas. When specific effects such as those for improving virility, countering doṣa perturbation etc., are desired, the appropriate formulations should be added to the enema fluid. The common constituents of enemas include devadāra, elā, kuṣṭha, madhuka, pippalī, rnadhu, fats, emetics, purgatives, mustard, sugar and salt. Some of the specific formulations are listed below:

Formulations	Actions	Remarks
Bilva, agnimanthā, śyonāka, pāṭalī	Settles vāta perturbation	Mixed with four lubricants and meat soup
Śālaparṇī, pṛśniparṇī, bṛhatī, kaṇṭakārī, eraṇḍa	Settles vāta perturbation	Mixed with four lubricants and meat soup
Barley, horsegram, jujube, śālaparṇī	Settles vāta perturbation	Mixed with four lubricants and meat soup
Nala, vañjula, vanīra, saptapatra, śaivāla	Settles pitta perturbation	Sugar, honey, ghee and milk added for enema
Manjiṣṭhā, sārivā, anantā, payasyā, madhuyaṣṭī	Settles pitta perturbation	Sugar, honey, ghee and milk added for enema
Candana, padmaka, uśīra, punnāga	Settles pitta perturbation	Sugar, honey, ghee and milk added for enema
Aṛka, alaṛka, pāṭhā, punarnavā	Settles kapha perturbation	Yavakṣāra, honey, cow's urine added; used for enema
Haridrā, triphalā, mustā, dāruharidrā, kuṭannata		
Madanaphala, jīmūtaka, ikṣvāku, dhāmārgava, vatsaka	Empties the large bowel	Boiled in cow's urine for enema
Śyāma, trivṛt, śālaparṇī, dantī, dravantī	Empties the large bowel	Boiled in cow's urine for enema
Pṛakīrya, udakīrya, nīlinī, kṣīriṇī	Empties the large bowel	Boiled in cow's urine for enema
Saptalā, śankhinī, lodhra, kampillaka for powder	Empties the large bowel	Boiled in cow's urine for enema
Kākolī, kṣīrakākolī, mudgaparṇī, śatāvarī	Builds muscle and semen	Given as enema
Vidārī, madhuyaṣṭī, sṛṇgāṭaka, kaśeruka	Builds muscle and semen	Given as enema
Seeds of kapikacchu, blackgram, wheat, barley	Builds muscle and semen	Given as enema
Meat of acquatic animals	Builds muscle and semen	Given as enema
Jīvantī, agnimanthā, dhātaki flowers, vatsaka	Produces astringent effect in large bowel	Used as enema
Āragvadha, khadira, kuṣṭha etc., ending in barley	Produces astringent effect in large bowel	Used as enema

Priyaṅgū, lajjālu, taruṇī, svarṇayūthikā	Produces astringent effect in large bowel	Used as enema
Vatādi group, kiṁśuka, lodhra	Produces astringent effect in large bowel	Used as enema
Vṛścīra, punarnavā	Stops profuse mucus discharge	Milk boiled and used for enema
Ākhuparṇi, taṇḍulīyaka	Stops profuse mucus discharge	Milk boiled and used for enema
Kāḷaṇkataka, kāṇḍekṣu darbha, poṭagala, ikṣu	Relieves burning sensation	Milk and ghee added for enema
Utpalādi group of drugs	Relieves burning sensation	Milk and ghee added for enema
Kaṛbudāra, āḍhakī, nīpa, vidula	Relieves sharp pain	Boiled in milk; honey and sugar added for enema
Stalk of gambhārī, kovidāra flowers	Relieves sharp pain	Boiled in milk; honey and sugar added for enema
Stem of śālmalī flowers	Relieves tenemus	Boiled in milk; ghee added for enema
Śālmalī exudate	Relieves tenemus	Boiled in milk; ghee added for enema
Aśvāvarohikā, kākanāsā, rājakaśeruka	Controls profuse diarrhea	Boiled in milk; anjana, sugar and ghee added for enema
Bṛhatī, ksīrakākolī, pṛṣniparṇī, śatāvarī	Beneficial for treating blood in stools	Boiled in milk; honey, anjana, sugar and ghee added for enema
Gambhārī, badarī, dūrvā, uśīra, priyaṅgū		
Fresh blood of rabbit, deer, cock, cat, buffalo, sheep, goat	Beneficial for treating blood in stools	Squeezed before use as enema

Madhuka, madhūka, drākṣa, durvā, gambhāri, candana	Beneficial for treating blood in stools	Boiled in milk; honey and sugar added for enema
Manjiṣṭā, sārivā, anantā, payasyā, madhuka	Controls internal bleeding	Decoction for enema
Śarkarā, candana, drākṣa, honey, āmalakī fruits, utpala	Controls internal bleeding	

The wise physician should choose the most efficacious enemas for different illnesses and conditions.

FRUITS FOR ENEMA FLUID [25]

A correctly performed enema does not travel beyond the level of the navel. How then does it remove impurities from the whole body? The answer to this query lies in the central function of vāta which sustains the body, prevents accumulations, and powers all movements. When vāta is vitiated alone or in the company of other doṣas, it becomes pervasive throughout the body. The elimination of doṣas through the natural seat of vāta by enema would therefore imply body-wide evacuation of substances through vāta as a carrier.

Claims are sometimes made that one fruit is superior to all others for application in enemas because of its properties of settling doṣas. As a matter of fact, there is no fruit without merits and demerits. A fruit is chosen primarily for its merits, demerits are secondary. It is on this basis that jīmutaka is said to be effective in kuṣṭha, ikṣvāku in diabetes, kuṭaja in heart disease, dhāmārgava in pallor, kṛtavedhana in abdominal disorders, and madana in all conditions. Madana's properties include sweetness, astringency, bitter taste, roughness, heat and the ability to mop up fluid. It settles disturbed kapha and pitta, sets wind in the downward direction and acts quickly. No wonder, phala or fruit has become a synonym for madana fruit in practice.

ENEMAS FOR QUADRUPEDS [26]

Can enemas be used in the treatment of sick animals? The answer is yes as noted in the following observations.

Animals Elephants and camels	**Enema bag Urinary bladder of goat and sheep**
Cows, and horse	**Buffalo's urinary bladder**
Goat and sheep	**Bull's urinary bladder**

The length of the enema pipe varies from 1 cubit, 18, 16 to 10 finger-breadths. The dose of enema is according to size and as per stipulations in the text.

The basic and common formulation is indrayava, kuṣṭha, madhuka etc., ending in daśamūla mixed with jaggery and rock salt. The additives for special groups are given below:

Animals	Formulations	Remarks
Elephants	Aśvattha, vāta, aśvakarṇa etc., ending in citraka	Used as additives to the basic formulation
Cows	Palāśa, bhūtikā, devadāru, rīhiṇī	Used as additives to the basic formulation
Horses	Palāśa, dantī, devadāru, kaṭṭṛṇa, dravantī	Used as additives to the basic formulation
Asses, camels	Pīlu, karīra, khadira, leaves of āragvadha and bilvādi groups	Used as additives to the basic formulation
Goats and sheep	Triphalā, parūṣaka, kapittha, etc., ending in kola	Used as additives to the basic formulation

THOSE ALWAYS ILL[27]

Enemas, indeed all forms of treatment, are difficult for persons who are always ill. The examples are indicated below:

Category	**What makes them non-compliant to a code of conduct for health**
Priests	Study, performance of rituals, vows
Government officers	Effort to please the king and superiors, mental tension and excessive work
Prostitutes	Submission to the king, various men, preoccupation with body make-up and decoration
Traders	Sedentary habit, constant anxiety for sale and purchase

All the above categories tend to suppress natural urges, neglect meals or evacuation on time, and move about out of season.

For the above categories of persons who share the habit of suppressing natural urges and suffer the perturbation of vāta, the following formulations are beneficial.

Formulations	**Remarks**
Punarnavā, ēraṇḍa, dantī etc., ending in bṛhat pancamūla	Boiled in cow's urine and curd water; oil, ghee and five salts added. Used for non-lubricant enema. Diet regimen and lubricant enema to follow
Bala, rasnā, madanaphala etc., ending in horsegram	Boiled in water; paste of kalinga, oil, ghee, jaggery and rock salt added and stirred; used for enema. In the follow-up, lubricant enema, oil prepared with yaṣṭimadhu, madanaphala, bilva or śatāhvā should be used.

Non-lubricant enema is the best form of treatment to promote growth and strength in children and old people.

POST-EVACUATION MANAGEMENT [28]

Following an evacuative procedure such as emesis, the patient's body would undergo immediate changes which include thinning, loss of weight, laxity of joints, draining out of the body and diminished tolerance to medications. At this stage he should be managed with special care even as one would handle tender eggs or a cup filled to the brim with oil.

During the recovery phase his diet should be built up gradually from thin gruel to meat soup. The

appropriate order would be sour, sweet and oily food followed by sour and salty food. Next, food that is astringent or pungent should be given. When fully recovered, the patient would be able to eat anything, withstand all kinds of impacts; he would also have regained clarity of senses., and strength, both physical and mental.

During the phase of recovery, the patient should abstain from many activities, more especially at night, lest they should give rise to severe pain in the body, wasting and other complications.

Proscribed activities

The eight activities to be avoided, their consequences and steps for management are summarised in the following table.[29]

Proscribed activity	Consequences of violation	Treatment other than enema
Loud and extravagant talk	Headache, earache, defective vision, thirst, fever, stiffness in neck and jaws; hoarse voice, hiccup	Massage, fomentation, poultice, lubricant substances after meals, speech rest, vāta-relieving measures
Rough travel in vehicles	Looseness in joints, pain in the jaw and head, abdominal pain and distension, pain in the back and sides, pressure on the heart, swelling of feet	Lubricant therapy, fomentation, vāta-relieving measures
Too much walking	Pain the feet, legs, buttocks; calf cramps, distended leg vessels, cough, shortness of breath	Lubricant therapy, fomentation, vāta-relieving measures
Too much sitting	Complaints similar to above, additional pain in the groins, scrotum, back etc.	Lubricant therapy, fomentation, vāta-relieving measures
Eating during indigestion: eating when previous meal is not digested	Dry mouth, abdominal distension, colic, vomiting, diarrhea, fever, food poisoning	Emesis, fomentation, fasting, appetising drugs and diet
Irregular and incompatible food	Loss of appetite and colour, itching, rash, piles, abdominal distension	Diet and drugs to oppose the disturbed doṣas
Sleep during day	Loss of appetite, indigestion, vomiting, heart disturbance, dullness, drowsiness, blood in urine	Lightening measures, emesis, head evacuat-, ion ariṣṭas to improve appetite, rubbing etc.
Sexual intercourse	Loss of strength, weakness of thighs; pain in the groins, genitalia and legs, blood through	Lubricant therapy, fomentation, massage. Poultice, vāta-relieving measures, urethral wash with medicated oil

	urethra, cough, blood in sputum, swelling of scrotum, retention of urine, stools and gas. Feeling as if anus is being retracted, penis is being thrashed: mind is sinking	

SUPPORTIVE ENEMAS

In addition to the above measures, supportive enemas (yāpana bastī) should be given without fail. A representative list of these enema formulations is given below:[30]

Formulations	Actions	Remarks
i. Mustā, uśīra, balā etc., ending in laghu pancamūla ii. Śatapuṣpā, madhuka, indrayava etc., ending in rock salt	Promotes semen, strength; relieves cough, colic, gaseous abdominal lumps, in difficult urination, blood and mucus in stools, stone in bladder, insanity etc.	Group i. Decoction made with madanaphala in water; boiled with milk and concentrated; meat juice, honey, ghee, paste of ii. added. Given as enema
i. Śālaparṇī, pṛṣniparṇī, bṛhatī etc., ending in devadāru ii. Śatapuṣpā, kuṣṭha, mustā etc., ending in yavāni	Beneficial for young, merry women; for fertility, for the old and infirm	Group i. boiled with madana fruits, eraṇḍa root and palāśa in water and milk and concentrated; decoction mixed with paste of ii., honey, ghee, oil and rock salt; given as enema
Roots of balā, atibalā, vidāri etc., ending in barley	Improves cough, fever, splenic enlargement, facial weakness, wine addiction etc.	Milk boiled with drugs and mixed with the paste of madhuka, madana, honey, ghee and sauvarcalā salt

i. Balā, atibalā, rāsnā etc ending in daśamūla ii. Madhuka, madana, śatapuṣpa etc., ending in yavānī	Beneficial in retention of semen, urine and stools, heart disease, abdominal distension, stiffness in back and sides	Group i. boiled in water with barley, and jujube, horse-gram dried radish; mixed with the paste of ii. and jaggery, ghee, honey, milk, meat oil soup, sour gruel and rock salt; used as a mildly warm enema
Hapuṣā, partly ground barley	Beneficial in treating vāta–blood perturbation spread all over the body; addiction to sex; also improves digestion, mental powers	Boiled in milk and water and concentrated; honey, ghee, oil and salt added; used as enema
i. Laghu pancamūla ii. Pippalī, madana, madhuka	Beneficial in emaciation due to intermittent fever	i. Decoction prepared with milk and water ii. Jaggery, ghee, oil and salt added for enema
i. Roots of śālaparṇī, pṛṣniparṇī, gokṣurakā etc., ending in madhuka flowers ii. Pippalī, madhuka, utpala	Improves weakness of senses and debility due to intermittent fever	Decoction of i. prepared in milk and water; paste of ii. added with ghee and rock salt

Alternatively, supportive enemas could be prepared from animal products, a partial list of which follows:[31]

Formulations	Actions	Remarks
i. Laghu pancamūla ii. Śatapuṣpā, madhuka,rāsnā etc., ending in pippali	Rasāyana for promoting strength, semen, colour etc	Decoction of i. with milk and bird meat mixed with paste of ii., ghee, oil, jaggery and rock salt for enema
i. Daśamūla ii. Pippalī, madhūka, rāsnā, madanaphala	Enhances the strength of men with libido	Group i. boiled with milk and cock's meat soup and concentrated; paste

		of ii., ghee, sugar and honey added for enema
i. Peacock bile organ, feathers, beak and intestines ii. Madanaphala, pippalī,vidārī, śatapuṣpa, madhuka	Promotes the strength of men whose senses are weakened by excessive sexual activity	Group i. boiled with milk and water and concentrated; paste of ii., honey, ghee and rock salt added for enema
i. Flesh of lizard, mongoose, cat, rat and porcupine ii. Pippalī, madanaphala	Excellent tonic, beneficial for patients with wasting, with chest injury by animals, fall from chariot, elephant etc; retention of urine, stools etc.	Group i. cooked with milk and laghu pancamūla; paste of ii. rock salt, sauvarcalā, honey, sugar and oil added for enema
i. Flesh of tortoise, extract of the testicles of bull, elephant, horse, swan, crocodile, and rooster ii. Ikṣūraka, kapikacchu	Promotes the strength of even old people; aphrodisiac	Milk boiled with tortoise flesh and extract of other items in i.; paste of ii., honey, sugar, ghee rock salt added for enema
i. Daśamūla, meat of peacock, swan, rooster ii. Śatapuṣpā, mustā, hapuṣā	Relieves vātaja disorders of lower extremities, pelvis and testicles	Decoction of i. mixed with oil, ghee, muscle fat and marrow, paste of ii. and salt for enema

When animal products are not acceptable for enema, plant products could be used for preparing supportive enemas as shown by the following examples.[32]

Formulations	Actions	Remarks
Honey, ghee	Excellent aphrodisiac; relieves painful urination, pitta and vāta	Mixed with hot water, śatapuṣpā extract, rock salt for enema

Honey, oil, śatapuṣpā	Aphrodisiac, promotes strength, destroys worms, relieves skin disorders, splenic enlargement	Mixed with rock salt for enema
Honey, ghee, milk, paste of śatapuṣpā	Aphrodisiac, relieves inflammation of pelvis and bladder, painful urination, promotes strength	Mixed and prepared for enema
i. Daśamūla, triphalā, bilva, madanaphala ii. Kuṭaja, madanaphala, mustā, pāṭhā	Destroys kaphaja disorders; relieves distended urinary bladder, retention of flatus and semen, pallor, indigestion etc	Group i. mixed in cow's urine and paste of ii., rock salt yavakṣāra, honey and oil for enema

LUBRICANT FORMULATIONS FOR APHRODISIAC ENEMAS [33]

Formulations	Actions	Remarks
i. Śatāvarī, guḍūcī, sugar cane etc., ending in kharjūra ii. Jīvaka, ṛṣabhaka, medā etc., ending in lotus stamen; flesh of spotted deer and hyena iii. Testicular extract of cock, sparrow, cakora etc., ending in swan	Excellent and powerful aphrodisiac; builds the strength of the wasted and injured: beneficial in female genital disorders, sterility etc. Removes wrinkles	Juice of i. cooked with ghee, oil and milk of cow, buffalo and goat, paste of ii. and iii; muscle fat & marrow; carried with chanting of hymns on an elephant after worshipping Śiva. Mixed with honey for enema with prayers
i. Balā, gokṣurā, rāsnā etc., ending in sahacara ii. Juices of vidarī, āmalakī, testicular extract of goat, buffalo, boar, bullock, peacock, swan, duck crane iii. Candana, madhuka, madhulika etc., ending in patra	Powerful aphrodisiac; builds body tissues, removes wrinkles, blackens grey hair; beneficial in wasting disease	Group i. ground, boiled in water and concentrated. Group ii. mixed with ghee, oil and paste of iii. and cooked again. This is used or enema; sacred rituals observed
i. Sahacara ii. Balā, madhuka, madhūka etc., ending in lodhra	Excellent tonic for lovely women; beneficial in wasting, vāta–pitta disorders shortness of breath, wrinkles etc.	Group i. boiled in water and concentrated; juices of vidarī and sugarcane, milk, oil, ghee, paste of ii. and śarkarā added and cooked. Sacred rituals observed in preparation. Used for enema

All the three preparations gain in potency when cooked repeatedly a hundred or thousand times[34]All

these supportive enemas (total 216) are not harmful to even old or diseased persons; on the contrary, they would build body tissues including semen, confer fertility on women, enhance the potency of men, and play the combined role of lubricant and non-lubricant enema. They should be administered with great care by physicians who know how to avoid as well as treat complications.

Epilogue

About *Caraka Samhitā*

The teachings of sage Atrēya were enshrined in 120 chapters by his brilliant disciple Agniveśa. The systematic study of the text vouchsafed long life, good health, renown and the three puruṣārthas (virtuous conduct, wealth and joyful living) in full measure. Redaction of Agniveśa's text was accomplished by Caraka of scintillating intellect, who recast the treatise by expanding the terse and compressing the voluminous. But one-third of Caraka's great redaction was lost in course of time. It was left to Dṛdhabala of Pancanādapura to fill the gaps by collecting information from different treatises and writing seventeen chapters of Cikitsā Sthāna, and the entire Kalpa and Siddhi Sthānās. The final text that emerged abounds in perfect words and meaning, and remains free from the defects of composition. It also stands out by its adherence to the thirty-six textual criteria of an authoritative treatise (tantra). Indeed these criteria illuminate a treatise, just as the sun opens a lotus and a lamp illumines a house. Understood poorly, a text would harm a physician just like a weapon in the hands of an ignorant man; on the contrary, the wise, having understood the text, is protected by the weapon. One who has understood the *Caraka Samhitā* is a knower of concepts, a thinker and a skilled physician. How can he not but comprehend diseases and their treatment?1

Reference

1. Siddhi 12: 41-44

Botanical names

Abhiṣūka	? Pistacia vera Linn.
Ā ḍhakī	Cajanus cajan (L.) Millsp.
Ā dhaḥpuṣpī	Trichodesma indicum (Linn.) R. Br.
Adhogudā	? Euphorbia fusiformis Ham.
Ā dityavallī	Helianthus annus Linn.
Agnimanthā	Premna corymbosa Rottl.
Aguru	Aquilaria malaccensis Lamk.
Aindrī	Bocopa monnieri (Linn.) Pennel
Ajagandhā	Cleome viscosa Linn.
Ajamodā	Trachyspermum roxburghianum (DC.) Craib
Ā khuparṇī	Merremia emarginata (Burm.f) Hall.f.
Akṣikī	Morinda pubescens J.E. Smith
Akṣipī ḍaka	? Phaseolus lunatus Linn, (a variety)
Akṣīva	Morinda pubescens J.E. Smith
Akṣoṭa	Juglans regia Linn. var. kumaonia DC.
Alābu	Lagenaria siceraria (Mol.) Standl.
Āluka	Dioscorea alata Linn.
Āmalaka, Āmalakī	Phyllanthus emblica Linn.
Ambaṣṭhā	Hibiscus cannabinus Linn.
Amḷacā ṅgerī	Oxalis corniculata Linn.
Amlaka	Artocarpus hirsutus Lam.

Amlavetasa	Garcinia pedunculata Roxb.
Amlika	Tamarindus indica Linn.
Āmrā	Mangifera indica Linn.
Āmrātaka	Spondias pinnata (L.f.) Kurz
Āmṛtā	Tinosporia cordifolia (Willd.) Hook, f & Thoms.
Anantā	Hemidesmus indicus (Linn.) R. Br.
Aṅkoṭa	Alangium salvifolium (Linn, f.) Wang. ssp. salvifolium
Antaḥkoṭarapuṣpī	Argyreria nervosa (Burm.f) Boj.
Anupākī	?
Apāmārga	Achryanthes aspera Linn.
Apetarākṣasī	Ocimum tenuiflorum Linn.
Āragvadha	Cassia fistula Linn.
Aralu	Ailanthus excelsa Roxb.
Ārdraka	Zingiber officinale Rosc.
Arimeda	Acacia leucophloea (Roxb). Willd.
Arjuna	Terminalia arjuna (Roxb. ex DC.) Wight &Arn
Arka	Calotropis procera R. Br.
Asana	Pterocarpus marsupium Roxb.
Asanaparṇī	?
Asīta	Indigofera tinctoria Linn.
Aśmantaka	Ficus rumphii Blume.
Aśokarohiṇī	Picorrhiza scrofulariiflora Pennell

Āsphota	Clitoria ternatea Linn.
Aśvagandhā	Withania somnifera (Linn.) Dunal
Aśvakarṇa	Dipterocarpus turbinatus. Gaertn. f.
Aśvattha	Ficus religiosa (Linn.)
Aśvāvarohikā	Dipterocarpus turbinatus Gaertn. f.
Atirasā	Glycyrrhia glabra Linn.
Ātiviṣā	Aconitum heterophyllum Wall. Ex Royle
Atmaguptā	Mucuna pruriens (Linn.) DC.
Badara	Zizyphus mauritiana Lam.
Bākucī	Psoralea corylifolia Linn.
Balā	Sida rhombifolia Linn. ssp. retussa (Linn.) Borssum
Bāḷaka(Vālaka)	Coleus zeylanicus (Benth.) Cramer; Coleus vettiveroides Jacob.
Bandhujīva	Pentapetes phoenicea Linn.
Bhadramustā	Cyperus esculentus Linn.
Bhadraśrī	Santalum album Linn.
Bhallātaka	Semecarpus anacardium Linn. f.
Bhaṇḍī	Albīzia lebbeck (Linn.) Benth.
Bhārgī (Bharṅgī)	Clerodendrum serratum (Linn). Moon.
Bhavya	Dillenia indica Linn.
Bhṛṅgarāja	Eclipta alba (Linn.) Hassk.
Bhūmyāmalakī	Phyllanthus amarus Schum. & Thonn.
Bhūnimba	Andrographis paniculata Nees
Bhūrjā	Betula utilis D. Don

Bhūstṛṇa	Cymbopogon citratus (DC.) Stapf.
Bhīūtakeśī	Nardostachys grandiflora DC.
Bhītikā	Trachyspermum roxburghianum (DC.) Craib
Bibhītaka	Terminalia bellirica (Gaertn.) Roxb.
Bījaka	Pterocarpus marsupium Roxb.
Bījapīraka	Citrus medica Linn.
Biīva	Aegle marmelos (Linn.) Corr.
Biīvaparṇī	Limonia crenulata Roxb.?
Bimb;ī	Coccinia grandis (Linn.) Voight.
Brāhmī	? Centella asiatica (Linn.) Urban.
	Bacopa monnieri (Linn.) Pennell
Bṛhatī	Solanum violaceum Ortega
Cakramarda	Cassia tora Linn.
Canaka	Cicer arietinum Linn.
Candana	Santalum album Linn.
Cāṅgerī	Oxalis corniculata Linn.
Carmaṅkaṣā	Acacia sinuata (Lour.) Merr.
Caturanṅguīa	Cassia fistula Linn.
Cavikā	Piper chaba Hunter
Cavya	Root of Cavika.
Cirabilva	Holoptelia integrifolia (Roxb). Planch.
Citraka	Plumbago zeylanica Linn. (White variety)
	Plumbago indica Linn. (Red variety)

Coraka	Angelica glauca Edgw.
Cukrikā	Rumex vesicarius Linn.
Dadhittha	Feronia limonia (Linn.) Swingle.
Dādima	Punica granatum Linn.
Daṇḍīraka	Nymphaea alba Linn. (Leaf stalks)
Dantaśaṭha	Citrus aurantifolia (Christm.) Swingle
	Baliospermum solanifolium (J. Burm.) Suresh
Dantī	Baliospermum montanum (Wild.) Muell. –
	Arg.)
Dāruharidrā	Coscinium fenestratum (Gaertn.) Colebr.
Devadāru	Cedrus deodara (Roxb. ex. D. Don) G. Don
Dhāmārgava	Luffa cylindrica (L.) M. J. Roem.
Dhanvayāsa,	Fagonia cretica Linn.
Dhanvayāsaka	
Dhānyaka	Coriandrum sativum Linn.
Dhātakī	Woodfordia floribunda Salisb.
Dhāva	Anogeissus latifolia (Roxb. Ex. DC.) Wall.
	ex Guill & Perr.
Dhyāmaka	Cymbopogon martinii (Roxb.) Wats.
Drākṣ ā (Mṛdvīkā)	Vitis vinifera Linn.
Dravantī	Jatropha curcas Linn.
Dugdhikā	Euphorbia thymifolia Linn.
Durālabhā	? Fagonia cretica Linn.

	Tragia involucrata Linn.
Dūrvā	Cynodon dactylon (Linn.) Pers.
Elā	Elettaria cardamomum Maton
Elāvāluka	Prunus cerasoides D. Don
Eraṇḍa	Ricinus communis Linn.
Ervāruka	Cucumis melo var. utilissimus (Roxb.)
	Duthie and Fuller
Gajapīppalī	Scindapsus officinalis (Roxb.) Schott
Gambhāri	Gmelina arborea Roxb.
Gandhapriyaṅgu	? Callicarpa macrophylla Vahl
Gandṇḍīra	? Cayratia pedata (Lam.) Juss. ex Gagnep.
Gāngerukī	Sida cordata (Burm.f.) Borssum
Gavākṣī	Cucumis trigonus Roxb.
Gavedhukā	Coix lacryma-jobi Linn.
Godhūma	Triticum aestivum Linn.
Gojihvā	Elephantopus scaber Linn.
Gokṣura	Tribulus terrestris Linn.
Granthī (Pīppalimūla)	Piper longum Linn. (Wild variety)
Gṛ ñjanaka	Allium ascalonicum Linn.
Guḍūcī	Tinospora cordifolia (Willd.) Hook.
	f.&Thomson
Guggulu	Commiphora mukul (Hook.ex Stocks) Engl.
Gunjā	Abrus precatorius Linn.

Haīmavatī	Acorus gramineus Soland.
Hapuṣā	Juniperus communis Linn.
Hareṇu	? Prunus avium Linn.
Haridrā	Curcuma longa Linn.
Harītakī	Terminalia chebula Retz.
Hastidantī	Croton oblongifolius Roxb.
Hastiparṇī	Cucumis sativus Linn.
Hastiśyāmāka	? Panicum frumentacea (Roxb). Link.
Hiṅgu	Ferula asafoetida Linn.
Hiṅguśivā ṭika	Gardenia gummifera Linn. f.
Hṛbera	Coleus zeylanicus (Benth.) Cramer
Ikṣu	Saccharum officinarum Linn.
Ikṣuraka	Hygrophila schulli (Ham.) M.R. & S.M. Almeida (Asteracantha longifolia (Linn.) Nees.)
Ikṣvāku	Lagenaria siceraria (Molina) Standl.
Ikṣvālika	Saccharum spontaneum Linn.
Indrāṇiśāka	Vitex negundo Linn.
Indravāruṇī	Cucumis trigonus Roxb.
Indrayava	Holarrhena pubescens (Buch. - Ham.) Wallich ex Don
Inguṇi	Balanites aegyptiaca auct. non (L.) Del.
Jalapippalī	Phyla nodiflora Linn. (Lippia nodiflora (Linn.) A. Rich.)
Jambīra	Ocimum basilicum Linn. ssp. Minimum

	Danert
Jambū	Syzygium cumini (Linn.) Skeels
Jaṭāmānsī	Nardostachys grandiflora DC.
Jātī	Jasminum grandiflorum Linn.
Jātikośa	Myristica fragrans Houtt.
Jātuka	Laccifer lacca
Jīmūta	Luffa cylindrica (L.) M. J. Roem.
Jiṅgiṇī	Lannea coromandelica (Houtt.) Merr.
Jīraka	Cuminum cyminum Linn.
Jīvaka	Malaxis acuminata D. Don (Microstylis wallichi Lindl.)
Jīvant;ī	Leptadenia reticulata W & A.
Jujube (Badara)	Ziziphus mauritana Lam.
Jūrṇ ;ā	Zea mays Linn.
Jyotiṣmatī	Celastus panniculatus. Willd.
Kacchurā	? Fagonia cretica Linn.
Kadali	Musa paradisiaca Linn.
Kadambā	Neolamarckia cadamba (Roxb.) Bosser
	[Anthocephalus cadamba (Roxb.) Miq.]
Kadara	Acacia polyantha Willd.
Kaiḍarya	Murraya koenigii (Linn.) Spreng.
Kākamācī	Solanum nigrum Linn.
Kākanā śā	Trichosanthes tricuspidata Lour.
Kākaṇḍa	? Mucuna monosperma DC.

Kākolī	Fritillaria roylei Hook. f.
Kakubha	Terminalia arjuna (Roxb. ex DC.) Wight & Arn.
Kālaṅkaṭaka	Pterocarpus marsupium Roxb.
Kalama	An inferior variety of Ś āli
Kālaśāka	Murraya koenigii (L.) Spreng.
Kalāya	Pisum sativum Linn.
Kaliṅgaka	Holarrhena pubescens (Buch. - Ham) Wallich ex Don
Kālīyaka	Santalum album Linn.
Kamalakesara	Nelumbo nucifera Gaertn. (Stamen)
Kampillaka	Mallotus philipinensis. (Lam.) Muell. - Arg
Kā ṇdekṣu	Saccharum officinarum. Linn.
Kaṅgu	Setaria italica (Linn.) Beauv.
Kaṇṭakāri	Solanum surattense Burm. f.
Kapikacchū	Mucuna pruriens (Linn.) DC.
Kapittha	Limonia acidissima Linn.
Karamarda	Carissa carandas Linn.
Karañja	Pongamia pinnata (Linn.) Pierre
Karavīra	Nerium oleander Linn. (Nerium indicum Mill.)
Karbudāra	Bauhinia variegata Linn.
Karcūra	Curcuma zedoaria Rose.

Karīra	Capparis decidua (Forsk.) Edgew. (Capparis aphylla Roth.)
Karkaṭasṛ ṅgī	Pistacia chinensis Bunge ssp. integerrima (Stewart) Rich.f. (gall)
Kārkoṭaka	Momordica dioica Roxb. ex Willd.
Kārpāsa	Gossypium herbaceum Linn.
Kāśa	Saccharum spontaneum Linn.
Kāsamarda	Cassia occidentals Linn.
Kaśeruka	Scirpus kysoor Roxb.
Kaṭabhī	Clitoria ternatea Linn.
Kaṭaka	Strychnos potatorum Linn. f.
Kaṭhillaka	Boerhaavia diffusa Linn.
Kaṭphala	Myrica nagi Thunb.
Kaṭṭṛṇa	Cymbopogon jwarancusa Schult.
Kaṭukā	Picrorhiza scrophylariiflora Pennell (Picrorhiza kurroa auct. non Royle)
Kaṭurohiṇi	Picrorhiza scrophylariiflora Pennell (Picrorhiza kurroa auct. non Royle)
Kaṭvaṅga	Oroxylum indicum (L.) Benth. Ex Kurz
Kauntī	Piper cubeba Linn. f.
Kāyasthā	Terminalia chebula Retz.
Kebūkā, Kelūta	Brassica oleracea Linn. Var. capitata Linn.
Kesara	Crocus sativus Linn.

Ketakī	Pandanus odoratissimus Linn. f.
Kevukā	See Kebukā
Khadira	Acacia catechu (Linn, f.) Willd.
Khaṇḍikā	Pisum sativum Linn.
Kharāśvā	Tranchyspermum roxburghiianum (DC.) Craib
Kharjūra	Phoenix dactylifera Linn.
Kimśuka	Butea monosperma (Lam.) Taub.
Kirātatiktā	Swertia chirayita (Roxb.ex Flem.) Karsten
	? Andrographis paniculata Nees
Kḷ ītaka	Glycyrrhiza glabra Linn.
Kodrava	Paspalum scrobiculatum Linn.
Kola	A variety of badara
Kolāmla (Jujube)	Zizyphus mauritiana Lam.
Kośātakī	Luffa acutangula (Linn.)Roxb., Luff
	cylindrica (L.) M. J. Roem.
Kovidāra	Bauhinia variegata Linn.
Kraunc;ādana	Nelumbo nucifera Gaertn. (Petiole)
Kṛṣṇagandha	Moringa oleifera Lam.
Kṛtavedhana	Luffa acutangula (Linn.) Roxb.
Kṣīrakākoli	Lilium polyphyllum D. Don
Kṣīravidārī	Ipomoea mauritiana Jacq.
Kṣīriṇī	Euphorbia thymifolia Linn.
Kucelā (Paṭha)	Cissampelos pariera Linn. Cyclea peltata

	(Lam.) Hook. f. & Thomson
Kulaka	Trichosanthus lobata Roxb.
Kulattha	Macrotyloma uniflorum (Lam.) Verdc.
Kumārajīva	Drypetes roxburghii (Wall.) Huresawa
	(Putranjiva roxburghii Wall)
Kuncikā	Acacia caesia (Linn.) Willd.
Kunkuma	Crocus sativus Linn.
Kuśa	Desmostachya bipinnata (L.) stapf
Kūśmaṇḍaka	Benincasa hispida (Thunb.) Cogn.
Kuṣṭha	Saussurea lappa C.B. Clarke
Kusumbha	Carthamus tinctorius Linn.
Kuṭaja	Holarrhena pubescens (Buch. Ham.) Wall.
	ex Don
Kuṭannaṭa	Oroxylum indicum (Linn.) Vent.
Kuṭheraka	Ocimum basilicum Linn.
Kuṭumbaka	Cymbopogon citratus (DC.) Stapf
Lajjā, Lajjālu	Mimosa pudica Linn.
Lakuca	Artocarpus hirsutus Lam.
Lāṅgalikā	Gloriosa superba Linn.
Laśuna	Allium sativum Linn.
Lavalī	Cicca acida Linn.
Leha	Malaxis muscifera (Lindley) Kuntze
Lodhra	Symplocos racemosa Roxb.

Loha	Aquilaria malaccensis Lamk.
Mācika	Hibiscus cannabinus Linn.
Madana	Catunaregam spinosa (Thunb.) Tirvengadum
Madayantikā	Lawsonia inermis Linn.
Madhuka	Glycyrrhiza glabra Linn.
Madhūka	Madhuca indica J.E Gmel
Madhūli	Eleusine coracana (Linn.) Gaertn.
Madhuparṇī	See Madhuka
Madhuśigru	Moringa concanensis Nimmo ex. Dalz. & Gibson
Madhuyaṣṭhī	Glycyrrhiza glabra Linn.
Māgadhikā	Piper longum Linn.
Mahāmedā	Polygonatum verticillatum (Linn.) Allioni
Mahāvṛkṣa	Euphorbia neriifolia Linn.
Makuṣṭaka	Vigna pilosa Baker
Malapū	Ficus hispida Linn.
Māmsī	Nardostachys grandiflora DC.
Maṇḍūkaparṇī	Centella asiatica (Linn.) Urban
Manjiṣṭhā	Rubia cordifolia Linn.
Marica	Piper nigrum Linn.
Māṣa	Vigna mungo (Linn.) Hepper
Māṣaparṇi	Vigna radiata (Linn.) Willczek var. sublobata (Roxb.) Verdc.
Masūra	Lens culinaris Medic
Matsyākṣaka	Alternanthera sessilis (Linn.) R. Br. ex DC.

Mātuluṅga	Citrus medica Linn.
Medā	Polygonatum cirrhifolium (Wall.) Royle
Moca	Musa paradisiaca Linn.
Mocarasa	Bombax ceiba Linn. (Salmalia malabarica (DC.) Schott & Endlicher)
Mṛdvīka	Vitis vinifera Linn.
Mṛnāḷa	Nelumbo nucifera Gaertn. (Stalk)
Mudga	Vigna radiata (Linn.) Wilczek
Mudgaparṇī	Vigna pilosa Baker
Mūlaka	Raphanus sativus Linn.
Mūlakaparṇī	See dravanti
Munjātaka	Orchis latifolia Linn.
Mūrvā	Marsdenia tenacissima (Roxb.) Moon
Mustā	Cyperus rotundus Linn.
Nāgabalā	Sida cordata (Burm.f.) Borssum
Nāgadantī	Baliospermum solanifolium (J.Burm.) Suresh
Nāgarā ṅga	Citrus reticulata Blanco
Nala	Phragmites karka (Retz.) Trin.ex Steju
Nalada	Nārdostachys grandiflora DC.
Nalina	Nelumbo nucifera Gaertn.
Nāndīmukhī	Eleusine indica (Linn.) Gaertn.
Nārikela	Cocos nucifera Linn.
Nikuca	Artocarpus lakoocha Roxb.

Nīlinī	Indigofera tinctoria Linn.
Nīlotpala	Nymphaea nouchali Burm. f.
Nimba	Azadiracta indica A. Juss.
Nīpa	Neolamarckia cadamba (Roxb.) Bosser
Nirguṇḍī	Vitex negundo Linn.
Niṣpāva	Lablab purpureus Linn. (Dolichos lablab Linn.)
Nyagrodha	Ficus benghalensis Linn.
Padmā	Nelumbo nucifera Gaertn.
Padmaka	Prunus cerasoides D. Don
Padmakesara	Nelumbo nucifera Gaertn. (Filament)
Palā ḍīu	Allium cepa Linn.
Palaṅkasā	See Nispāva.
Palāśa	Butea monosperma (Lam.) Taub.
Panasa	Artrocarpus heterophyllus Lam.
Pancavalkala	Barks of five Ficus trees.
Pā rā vata	Phoenix dactylifera Linn.
Parpaṭa, Parpaṭaka	Fumaria indica (Hausskn.) Pugsley
Parūṣaka	Grewia asiatica Linn.
Pāṣānabheda	Bergenia ligulata (Wall.) Engl.
Pāṭalā, Pā ṭalī	Stereospermum suaveolens DC.
Pā ṭhā	Cissampelos pariera Linn. Cyclea peltata (Lam.) Hook.f. & Thomson

Paṭola	Trichosanthes lobata Roxb.
Patra	Cinnamomum tamala (Buch - Ham.) Nees. (Leaves)
Payasyā	Lilium polyphyllum D. Don
Phalgu	Ficus carica Linn.
Pīlu	Salvadora persica Linn. var. wightiana (Planch ex Thw.) Verde.
Pīluparṇī	See Mūrva.
Pippalī	Piper longum Linn.
Pippalimūla	Root of Pippali.
Pītadru	Berberis aristata DC.
Plakṣa	Ficus microcarpa Linn. f.
Plava	Cyperus esculentus Linn.
Poṭagala	Typha elephantina Roxb.
Prakīrya	Holoptelia integrifolia (Roxb.) Planch.
Prapauṇḍarīka	Glycyrrhiza glabra Linn. (A variety of madhuka)
Praśātika	Hygroryza aristata (Retz.) Nees ex Wight & Arn.
Prativiṣā	Aconytum palmatum D. Don.
Pratyakpuṣpī	Achryanthes aspera Linn.
Priyāla	Buchanania lanzan Spreng.
Priyaṅgu	Callicarpa macrophylla Vahl.
Pṛśniparṇī	Uraria picta Desv.
Pūnarnavā	Boerhaavia diffusa Linn.

Pūnn;āga	Calophyllum inophyllum Linn.
Puṣkaramūla	Inula racemosa Hook. f. (Root of Puskara)
Pūtanākeśī	Nardostachys grandiflora DC.
Pūtīka	Holoptelia integrifolia (Roxb.) Planch.
Rājādana	Manilkara hexandra (Roxb.) Dubard
Rājakaśeruka	Cyperus rotundus Linn.
Rājaksāvaka	Brassica nigra Koch
Rajamāṣa	Vigna unguiculata (Linn.) Walp. ssp. cylindrica (Linn.) Eselt.
Rā snā	Pluchea lanceolata C.B. Clarke
Ṛddhī	Habenaria edgeworthii Hook. f. ex. Collett.
Rohī ṇī	Soymida febrifuga (Roxb.) Adr. Juss.
Rohisaḥ	Cymbopogon martinii (Roxb.) Wats.
Rohitakaḥ	Aphanamixis polystachya (Wall.) Parker
Ṛṣabha, Ṛṣabhaka	Malaxis muscifera (Lindley) Kuntze
Ṛṣabhī	Mucuna pruriens (Linn.) DC.
Rudhira	Crocus sativus Linn.
Sahacara	Barleria cristata Linn.
Sahasravīryā	Asparagus racemosus Willd.
Śaileya	Parmelia perlata (Huds.) Ach.
Śaivāla	Ceratophyllum demersum Linn.
Ś āla	Shorea robusta Gaertn.f.
Ś ālaparṇī	Desmodium gangeticum DC.
Ś ālī	Oriza sativa Linn.

Śallakī	Boswellia serrata Roxb.
Śalmālī	Bombax ceiba Linn. (Salmalia malabarica (DC.) Schott & Endlicher)
Samaṅgā	Mimosa pudica Linn.
Śamī	Prosopsis spicigera Linn.
Śaṇa	Crotalaria juncea Linn.
Śankhapuṣpī, Śankhinī	Convolvulus pluricaulis Chois.
Saptalā	Acacia sinuata (Lour.) Merr.
Saptaparṇa	Alstonia scholaris (Linn.) R. Br.
Śara	Saccharum munja Roxb.
Sarala	Pinus roxburghii Sarg.
Śāriba	Hemidesmum indicus (Linn.) R. Br.
Sarja	Vateria indica Linn.
Sārṅgeṣṭa	Pongamia pinnata (Linn.) Pierre
Sarṣapa	Brassica juncea (Linn.) Czern. & Coss.
Ṣ āṣṭika	Oryza sativa Linn.
Śat;āhv;ā	Anethum graveolens Linn.
Śatapuṣp;ā	Calotropis procera (Ait.) R. Br.
Śatāvarī	Asparagus racemosus Willd.
Śaṭi	Hedychium spicatum Ham. ex Smith
Saumanaśāyinī	Myristica fragrans Houtt.
Śigru	Moringa oleifera Lam.
Śimbī, Śimbītakā	Lablab purpureus Linn. (Dolichos lablab Linn.)

Śimśapā	Dalbergia sissoo Roxb.
Sindhuvāra	Vitex trifolia Linn.
Śirīṣa	Albizia lebbeck (Linn.) Benth.
Sītuvāra	Marsilea quadrifolia Linn.
Śleṣmātaka	Cordia dichotoma Forst. f.
Snuhī	Euphorbia neriifolia Linn.
Śobhāñjana	Moringa oleifera Lam.
Somavalka	Acacia polyantha Willd.
Spṛkkā	Schizachyrium exile Stapf.
Srāvaṇī	Sphaeranthus indicus Linn.
Śreyasī	Pluchea lanceolata C.B. Clarke.
Śriveṣṭaka	Pinus roxburghii Sarg. (Resin)
Sṛṅgāṭa, Sṛṅgāṭaka	Trapa natans Linn. var. bispinsnosa (Roxb.) Makino.
Sthauneya	Taxus baccata Linn.
Sumanasayini	See jātī.
Sumukha	Ocimum americanum Linn.
Śunṭhī	Zingiber officinale Roscoe.
Surasa	Ocimum tenuiflorum Linn.
Suvahā	Pluchea lanceolata C.B. Clarke
Suvarcala	Helianthus annus Linn.
Svarṇakṣīrī	Euphorbia thomsoniana Boiss.
Svarṇayūdhikā	Jasminum humile Linn.

Śvetā	Clitoria ternatea Linn. (White variety)
Śvetabhaṇḍi	Albizia procera (Roxb.) Benth.
Śvetanāmā, Śvetaviṣāṇika	Clitoria ternatea Linn.
Śyamā	Operculina turpethum (Linn.) SilvaManso
Śyāmāka	Panicum sumatrense Roth ex Roem. et Schult.
Śyonāka	Oroxylum indicum (Linn.) Vent.
Tagara	Valeriana jatamansi Jones
Tāla	Borassus flabellifer Linn.
Tālamūli	Curculigo orchiodes Gaertn.
Tālaparṇī	Borassus flabellifer Linn. (Leaves)
Tālapralambha	Borassus flabellifer Linn.
Tālisa, Tālīsapatra	Abies spectabilis (D.Don) Mirb.
Tamāla	Cinnamomum tamala (Buch. Ham.) Nees.
Tāmalakī	Phyllanthus amarus Schum &Thonn.
Tāṇḍulīya	Amaranthus spinosus Linn.
Ṭaṅka	Pyrus communis Linn.
Tāpiśa	? Cinnamomum tamala (Buch. - Ham.) Nees.
Tarkāri	Clerodendron phlomoides Linn. f.
Tāruṇī	Rosa centifolia Linn.
Tarūṭa	Nymphaea Sp. (Rhizome)
Tejoḥvā	Zanthoxylum armatum DC.
Tiktarohiṇī	Picrorhiza scrophulariflora Pennell(Picrorhiza kurroa auct. non Royle)
Tila	Sesamum indicum Linn.

Tilvaka (Lodhra)	Symplocos cochinchinensis (Lour.) Moore
Tiṇḍuka	Diospyros malabarica (Desr.) Kostel.
Tiniśa	Ougeinia oojeinensis (Roxb). Hochr.
Tintidīka	Tamarindus indica Linn.
Trapuṣa	Cucumis sativus Linn.
Trāyamāṇa	Gentiana kuroo Royle
Trikaṭu	Piper longum Linn. Piper nigrum Linn. Zingiber officinale Rosc.
Triparṇī	Uraria lagopoides (Linn.) Desv.
Trivṛt	Operculina turpethum (Linn.) SilvaManso
Tryūṣaṇa	See Trikatu.
Tugā, Tugakṣīrī	Maranta arundinacea Linn.
Tulasī	Ocimum tenuiflorum Linn. (Ocimum sanctum Linn.)
Tumbī	Lagenaria siceraria (Mol.) Standl.
Tumburu	Zanthoxylum armatum DC.
Tuvaraka	Hydnocarpus laurifolia (Dennst.) Sleumer
Tvak	Cinnamomum verum Presl
Tvakpatra (Tamalapatra)	Cinnamomum tamala (Buch. - Ham.) Nees (Leaves)
Tvakṣīri	Bambusa arundinacea (Retz.) Willd.
Udakīrya	Pongamia pinnata (Linn.) Pierre
Udīcya	Plectranthus vettiveroides (Jacob) Singh & Sharma
Udumbara	Ficus racemosa Linn.
Upakuñcikā	Nigella sativa Linn.
Upodikā	Basella alba Linn.

Uśira	Vetiveria zizanioides (Linn.) Nash
Utpala	Nymphaea nouchali Burm. f.
Vacā	Acorus calamus Linn.
Vamśalocana	Bambusa arundinacea (Retz.) Willd.
Vānīra	Prunus amygdalus Baill.
Vanjula	Salix caprea Linn.
Varaka	Echinochloa colonum Linn.
Varṣābhū	Boerhaavia verticillata Poiret
Vārtāka, Vārtāki, Vārtāku	Solanum melongana Linn.
Varuṇa	Crataeva magna (Lour.) DC.
Vāśā	Adhatoda zeylanica Medicus
Vaśīra	Achryanthes aspera Linn.
Vāstuka	Chenopodium album Linn.
Vasuka	Indigofera enneaphylla Linn.
Vaṭa	Ficus benghalensis Linn.
Vātāma	Prunus amygdalus Baill.
Vatsādani	Tinospora cordifolia (Willd.) Hook, f & Thoms.
Vatsaka	See Kutaja
Vayasthā (Brāhmī)	Centella asiatica (Linn.) Urban
Veṇuyava	Bambusa arundinacea (Retz.) Willd.
Vetasa	Salix caprea Linn.
Viḍaṅga	Embelia ribes Burm. f.
Vidārī, Vidārīkaṇḍa	Pueraria tuberosa DC.

Viḍula	Barringtonia acutangula (Linn.) Gaertn.
Vikaṅkaṭa	Flacourtia jangomas Rausch.
Vīrā	Coccinia grandis (L.) Voight.
Viraṇa	Vetiveria zizanioides (Linn.) Nash
Viśālā	Citrullus colocynthis (Linn.) Schrader
Viṣāṇikā	Gymnema sylvestre (Retz.) R. Br.
Viśvakṣenakāntā	Callicarpa macrophylla Vahl
Vitunnaka	Coriandrum sativum Linn.
Vrīhī	Oryza sativa Linn. (A variety)
Vṛksādani	Dendrophthoe falcata (L.f.) Etting.
Vṛkṣāka	Holarrhena pubescens (Buch. Ham.) Wall, ex Don
Vṛkṣāmla	Garcinia indica Chois.
Vṛkṣamūla	The roots of five Ficus trees.
Vṛ ṣaka	Adhatoda zeylanica Medicus.
Vṛścikālī	Heliotropium indicum Linn.
Vṛścīra	Boerhaavia diffusa Linn.
Vyāghranakha	Helix aspera Linn.
Yaṣṭī, Yaṣṭimadhu	Glycyrrhiza glabra Linn.
Yava	Hordeum vulgare Linn.
Yavaka	Inferior type of Śāli.
Yavakṣāra	Hordeum vulgare Linn. (Alkali preparation)
Yavānī, Yavānikā	Trachyspermum ammi (Linn.) Sprague.
Yūthīka	Jasminum sambac (Linn.) Ait

Glossary

Bāhupiṇḍika	Forearms
Balya	Strengthening
Basti	Medicated enema
Bastikuṇ ḍala	A urinary disorder
Bastiś īrṣa	Supra-pubic region
Bhagandara	Anal fistula
Bhagāsthi	Pubis
Bhāgavata	One of the purā ṇas
Bhallātaka	A plant
Bhāmsa	Vagina
Bhāsada	Buttock
Bhāsādya	Penis
Bhela	Name of an ancient physician
Bhramara	A variety of honey
Bhṛgu	Name of a sage
Bhru	Eyebrows
Bhū sveda	Earth fomentation
Bhuja	Arms
Bhūmiśaya	Animals living in burrows
Bhūtadaya	Compassion
Bhūtaprakṛti	Body constitution

Bhūta	Elements
Bhūtātma	Essence of living beings
Bhūtavidyā	Supernatural medicine
Biḍa	A type of salt
Biḍ ālikā	Painful swelling in the joints of neck, chin or throat or respiratory passage
Bīja	Seed
Bodha	Awareness; knowledge
Bradhna	Swelling in the groin hernia
Brahma	First of the sacred Hindu trinity; the creator
Brahma Veda	Atharva Veda
Brahma vidyā	Spiritual knowledge or study
Brāhmaṇa	Part of Veda dealing with rules of using hymns for rituals
Bṛmhaṇa	Nourishing
Bṛmhaṇ īya	Bulk enhancing
Buddha	The enlightened one
Buddhi	Intellect
Cakora	Greek pheasant
Cakravāka	Wild duck
Canaka	Gram, a plant
Cāraṇa vidyā	A lost rescension of Atharva Veda
Carmadaḷa	A type of kuṣ ṭha
Carmākhya	A type of kuṣ ṭha

Cā ṭaka	Sparrow
Caturthaka	Quartan fever
Caya	Accumulation
Chardi	Vomiting
Chāyā	Image
Chidrodara	Intestinal perforation
Chinna śvāsa	A type of dyspnea
Cetana	Consciousness
Chetanāvān	Possessing sensations
Cibuka	Chin
Cikitsā Sthāna	A section of Caraka Samhitā
Cilacima	A type of fish
Cīna	China
Cityamhanvoḥ	Jaws, one piled above the other
Coraka	A plant
Cukrikā	A plant
Cūsaṇ ṣa	Sucking
Dadru	A type of kuṣ ṭha
Daiva	Fate
Daivavyapāśraya	Treatment with religious rituals, mantras
Dakṣa	A son of Brahma and a patriarch of mankind
Daṇ ḍ ālasaka	A serious type of indigestion
Danta	Teeth

Dantaūlukhalāni	Dental sockets
Dantaveṣ ṭaka	Gums
Dantavidradhi	Gum abscess
Darvīkara	Hooded snake
Daśamūla	Roots of ten plants
Dhamanī	Arteries
Dhanustambha	Bow-like rigidity of body; tetanus
Dhanvantari	A deity; physician of gods
Dhāri	Sustenance
Dhartā	Supporter
Dhātu	Body tissues
Dhātumala	Waste products related to dhātu
Dhātusāmya	Equilibrium of dhātus
Dhātvagni	Digestive fire of dhātus
Dhūma	A condition associated with drinking alcohol
Dhvāmsī	A unit of measurement
Dik	Direction/space
Dīpana	Digestive
Doṣān	Upper arm
Doṣasāmya	Equilibrium of doṣas
Doṣavaiṣamya	Inequilibrium of doṣas
Dauhṛdam	State of two hearts
Draṇkṣaṇa	A unit of measurement

Draṣṭa	Seer
Drava	Liquid
Dravya	Substance; material
Dṛdhabala	The redactor of Caraka Samhitā
Droṇa	A unit of measurement
Dukicha	Sorrow
Duṣīviṣa	A type of poison
Duṣṭa pratiśyāya	Complicated cold
Dūṣya	Body tissue vitiated by doṣa
Dvāparayuga	The third yuga or age of the world
Dveṣa	Aversion
Dviretā	Hermaphrodite
Dviṣtārthayogaja	Psychosomatic
Eka kuṣṭha	A type of kuṣṭha
Ekāūgaroga	Disease confined to one organ
Eṇa	Deer
Eraṇḍa basti	Enema with eraṇḍa formulation
Gada	Illness
Galagaṇḍa	Uniform swelling on either side of the neck
Gambhīra hikkā	A type of hiccup
Gaṇḍa	Cheeks
Ganḍakūṭa	Zygomatic prominence
Gaṇḍamālā	Multiple glandular swelling around the neck
Gandha	Smell

Gandhahasti	A medicinal formulation against poison
Gāndharva	A mental personality type
Gaūgā	Sacred river of India
Gara	A type of poison
Gauḍa	Fermented drink from molasses
Gautama	Name of a sage
Godhā	Alligator
Godhūma	Wheat
Gonī	A unit of measurement
Gopatha brāhmaṇa	A brāhmaṇa attached to the Atharva Veda
Gorasa	Milk and milk products
Grahaṇa	Receiver
Grahaṇī	A digestive disorder
Graiṣmika	Relating to summer
Granthi	Gland/localised swelling
Granthi visarpa	A type of cellulitis
Gṛdhrasī	Sciatica
Grīṣma	Summer
Grīva	Wind pipe, neck
Guda	Ano-rectum
Gudabhramśa	Prolapse of rectum
Gulphau	Ankles
Gulma	Gaseous lumps of abdomen

Gulpha	Ankle bones
Guṇa	Quality
Guru	Having qualities
Guru	Heavy
Gurukula	Guru's residence; an academy
Halikṣṇa	Gall bladder
Halīmaka	A chronic stage of jaundice
Hamsodakam	Specially processed water for drink
Hanu	Mandible
Hanugraha	Lock-jaw
Hanumān	Divine monkey-chief; symbol of power
Hanumūlabandhana	Head of mandible; temporo-mandibular joint
Haratāla	Orpiment
Hāridra meha	A type of prameha
Harita	Greens
Hasti meha	A type of prameha
Hastiśyāmaka	A variety of rice
Hāyaṇa	A variety of rice; a year
Hemanta	Winter
Hetu	Cause
Hetuvaiṣamya	Perturbation of quiescent cause
Hikkā	Hiccup
Himālaya	The Himālaya mountain

Hiṭāyu	Good life
Holaka	Dung fomentation
Hṛdaya	Heart
Hṛdayacara	A type of kṛmi
Hṛdayāvarana	Care of the heart
Hṛdroga	Heart disease
Icchā	Desire
Ikṣu	Sugarcane
Ikṣvāḷikā meha	A type of prameha
Indra	Lord of devas or gods
Indrābhā	Sparrow
Indragopa	A type of insect
Indriya	Sense organs
Indriyātma	Essence of sense organs
īrsyābhirati	A morbid sexual condition
īsvaṛakṛṣṇa	Author of an authoritative text on the Sānkhya system
Jarigalā	Forest
Jala	Water
Jālagardabha	Acute swelling with fever
Jalakukkuṭī	Water fowl
Jalayantra	Mechanical shower
Jālinī	A type of abscess
Jāūgalamṛga	Animals living in jungles

Jaūghā	Shank
Jaūghāpiūḍika	Calves
Jānu	Knee
Jānu sandhi	Knee joint
Jānukapālikā	Kneecap
Jatru	Xiphisternum
Jentāka sveda	Chamber fomentation
Jihvā	Tongue
Jīva	Life principle
Jīvaka	A plant; name of an ancient physician
Jīvanīya	Group of drugs which are life promoting, vivifying (plant)
Jīvita	Life
Jña	Conscious
Jñāna	Knowledge
Jñānendriya	Sensory organs
Jvara	Fever
Kacchapikā	A type of abscess
Kākaṇa	A type of kuṣṭha
Kakaṇa kuṣṭha	A type of kuṣṭha
Kākatikā	Central facial bone
Kakeruka	A type of kṛmi
Kakṣyā	Herpes zoster
Kāla	Time

Kalala	A jelly stage in the formation of fetus
Kālalavaṇa	A variety salt
Kāla meha	A type of prameha
Kālapucchaka	Black tailed deer
Kālī	Name of a goddess
Kālidāsa	Renowned poet of India
Kaliyuga	Fourth yuga or age of the world
Kalpa sthāna	A section of *Caraka Samhitā*
Kāmalā	Jaundice
Kaniṣka	Famed ruler of Kusana empire
Kaṇṭhaśoṣa	Dryness of throat
Kaṇva	Name of a sage
Kapāla	Cranium
Kapāla kuṣṭha	A type of kuṣṭha
Kapha	One of the doṣas
Kaphoda	Shoulder blade
Kaphodara	Udara due to kapha
Kapiñjala	Partridge
Kapota	Pigeon
Karaṇa	Instrument for treatment
Kāraṇa	Doer of treatment
Kāraṇḍava	Goose
Kardama visarpa	A type of cellulitis

Kardamaka	Cellulitis of vāta kapha type
Karma	Deeds in the past birth, action
Karmendriya	Organs of action
Karṇa	Ear
Karṇaputraka	Lobe of the ear
Karṇaśaṣkulikā	Pinnae
Karṇinī	A female genital disorder
Karṣa	A unit of measurement
Karśu	Trench fomentation
Kartā	Doer
Kārtikeya	Son of Siva; commander of the army of gods
Karuṇā	Mercy
Kārya	Purpose
Kāryaphala	Effect
Kāryayoni	Origin of doṣa perturbation
Kaṣāya	Astringent
Kasāya basti	Non-lubricant enema
Kasāyayonaya	Constituent decoctions
Kāśīsa	Iron salt
Kaṣṭasādhyam	Curable with difficulty
Kāśyapa	Name of a sage
Kaṭhina	Hard
Kaṭu	Pungent

Kaubera	A mental personality type
Kaumarabhrtya	Children's medicine
Kauśika	Name of a sage
Kauṭilya	Celebrated writer on civil polity and mentor of emperor Candragupta Maurya
Kāyacikitsā	Internal medicine
Kena sūkta	A section in Atharva Veda
Keśāda	A type of kṛmi
Khallī	Contracture
Khara	Rough
Kikasaḥ	Spinal column
Kilāsa	Third layer of skin
Kiṭibha	A type of kuṣṭha
Kḷoman	Lung
Kokilā	Indian cuckoo
Koṣṭha	Gastrointestinal tract
Kṛmi	Worms, organisms
Kṛśarā	A plant; dietary preparation with rice and pulse
Kṛṣṇātreya	Name of an ancient physician
Kṛtānna	Dietary preparations
Kṛta	First yuga or age of the world
Kṣaṇika	Momentary
Kṣāra meha	A type of prameha
Kṣārasūtra	A treatment for anal fistula

Kṣāratantra	Practice of treatment with alkalis
Kṣata kṣīṇa	Weakness due to chest injury
Kṣatriya	Warrior caste
Kṣaudra	A variety of honey
Kṣetra	Field
Kṣetrajña	Unmanifest knower
Kṣetriya	Heriditary disease
Kṣṇrayavāgu	Dietary preparation
Kṣudra hikkā	A type of hikka
Kṣudra ku;ṣṭha	Minor skin diseases
Kuḍava	A unit of measurement
Kukubha	Wild rooster
Kukkuṭa māmsa	Chicken meat
Kukṣi	Side of abdomen
Kukundara	Ischial prominence
Kumbhakāmalā	A chronic form of jaundice
Kumbhīka	Jug fomentation
Kūpa sveda	Well fomentation
Kuraṅga	Antelope
Ku;ṣāna	An empire that flourished in north India in the first two centuries AD
Ku;ṣṭha	Broad group of skin conditions including leprosy; plant
Kuṭi	Room fomentation
	Rejuvenation through rigorous method of confining to a room

Kuṭṇpraveśikā	for a long time with medication
Laghu	Light; not heavy
Lāsā	Dietary preparation of fried paddy
Lākṣā	Red dye, lac
Lakṣaṇa	Symptom
Lalāṭam	Forehead
Langhana	Slimming
Lasikā	Lymph
Lāva	Common quail
Lāvādya	Animals scattering grain while eating
Lavaṇa	Salt
Lelihā	A type of kṛmi
Lepa	Application of paste
Liṅga	Symptom
Loha	Metal
Lomāda	A type of kṛmi
Loman	Hair
Mada	Narcosis
Madānaphala	Fruits of madana
Madatyaya	Alcoholic disorders
Madhu	Honey
Madhu meha	A type of prameha

Madhura	Sweet
Madirā	A variety of wine
Madya	Alcoholic drinks
Maha śvāsa	A type of dypnea
Mahābhārata	Celebrated epic of India
Mahābhāṣya	Ancient commentary on Paṇinl's grammar
Mahāhikkā	A type of hiccup
Mahākaṣāya	A classification of medical decoc tions
Mahāsrotas	Gut; main channel
Mahat	The great principle, second of the 24 elements of Sankhya
Mahāyoni	A female genital disorder
Maheśvara	Śiva
Maitri	Friendship
Majja meha	A type of prameha
Majjā	Marrow
Makeruka	A type of kṛmi
Makṣika	A variety of honey
M?kṣika dh?tu	Copper ore
Mala	Waste
Mala dh?tu	Waste products as body constituents

Malaja	Worms that grow in feces
Mamsa	Meat
Manas	Mind
Manda	Slow
Maṇḍa	Water from gruel
Mandaka	Not fully matured curd
Maṇḍala kuṣṭha	A type of kuṣṭha
Maṇḍalī	Coiled snake
Maṇi bandha	lying precious stones to the body
Maṇika	Bones of wrist
Manjiṣṭ? meha	A type of prameha
Manobh?va	Mind-intellect product in the process of awareness
Mantha	Fermented drink; thinker
Mantra	Incantation
Maraṇa	Death
M?rga	Path, canal
Marīcī	A unit of measurement
Marma	Vital spots of the body
Marat	Wind, vital air
Maṣa	Blackgram
Maṣaka	A unit of measurement
M?stiṣka	Brain

Masura	Lentil
Masurik?	Eruptions of lentil size all over the body
M?tasna	Gall duct
M?tsya	A mental personality type
Maurya	An ancient empire of India
Medas	Adipose tissue
Milinda panha	A Buddhist text recording a dialogue between Menander and N?gasena
Mṛdu	Soft
Mṛtasanjīvana	Resuscitation
Mudga	Greengram
Mudita	Joy
Mukti	Liberation
Mūrcchā	Fainting
Mūtragranthi, Mūtrajaṭhara, Mūtrakṛcchra, Mūtrasamkṣaya, Mūtrātīta, Mūtrotsanga, Mūtraukasada	Types of urinary disorders
Nāḍi	Body channel
Nāḍi sveda	Tube fomentation
Nāgodara	Fetus with retarded growth due to fasting by mother
Nakha	Nails
Nāsāviśosaīa	Dry nose
Nāsikā	Nose

Nasya	Evacuation through nasal route
Nidāna	Causation
Niketa	Abode
Nīla meha	A type of prameha
Nimitta	Cause
Nirodha	Extinction; control
Nirvāīa	Void
Niṣpīdaīa	Applying pressure
Nitya	Eternal
Nityaga	In constant flux
Nyāya	One of the six Indian systems of philosophy
Nyāyasūtra	Basic text of Nyāya attributed to Gautama
Ojas	Derivative of tissues after semen indicating vitality
Okasāṭmya	Long term adaptation to particular environmental lifestyle
Oṣadhi	Medicinal plant
Oṣṭha	Lips
Padārtha	Objects of experience
Padmarāga	Ruby
Paiśāca	A mental personality type
Pakṣāghata	Hemiplegia
Pakvarasa	A type of vinegar
Pakvāśaya	A unit of measurement
Pala	A unit of measurement
Palārdha	A unit of measurement

Pahlava	People in north-west India
Pāmā	A type of kuṣṭha
Pancamūla	Roots of a group of five plants
Pancanādapura	A town in ancient Kashmir or north-west India
Pañcatva	Death
Pañcabhūta	Five constituents of matter
Pañcakarma	Five therapeutic procedures for evacuation and purification
Pañcīkaraṇa	A step in the process of bhuta formation
Pāṇḍuroga	Disorders of pallor
Pāṇi	Hand
Pāṇini	Ancient grammarian of Sanskrit
Pāṇipāda	Hands and feet
Pāṇipādāṅgulāsthi	Bones of fingers and toe
Pāṇipādāśalākā	Bones of palms and feet
Pāṇipādaśalakādhiṣṭa	Bony support to the above
Parā	Priority
Paramāṇu	Atom
Paramātmā	Supreme self
Parimāṇa	Size
Pariṇā ma	Transformation

Paripluta	A female genital disorder
Pariṣeka	Irrigation
Pariṣeka sveda	Shower fomentation
Parisrāva	A severe nasal discharge
Pāriyātra	Aravalli range of mountains
Pārṣṇa	Calcaneum
Pārṣṇi	Heels
Pārśuka	Ribs
Pārśukasthalaka	Rib sockets
Pārśva	Side of chest
Pārthiva	Earthy
Parvan	Joint
Pāśava	A mental personality type
Pataûjali	Name of the ancient commentator of Paṇ;inī's grammar
Pathin	Body channels
Pathyā	Dietary regimen
Pauttika	A variety of honey
Peśī	Muscles
Peyā	Thin gruel
Phala	Fruits
Phāṇita	Condensed juice of sugarcane
Picchābasti	A special type of enema

Picchila	Turbid
Pīnasa	Common cold
Pipīlikā	A type of kṛmi
Pitta	One of the doṣas
Pittalā	Pitta dominant constitution
Pittā śaya	Receptacle of bile
Pitṭodara	Abdominal swelling due to pitta
Plā śi	Colon
Plehodara	Abdominal swelling due to enlargement of spleen
Plīhan	Spleen
Prabhāva	Specific effective action
Pradhamana	Elimination through nose
Prajāpati	Brahma; presiding deity over creation
Pradhāna	Chief
Prajñāparādha	Imprudent conduct
Prākcaraṇ ā	A female genital disorder
Prakopana	Perturbation
Prākṛta	Derived from prakṛti; a kind of fever
Prakṛti	Body constitution
Prakupita	Purturbed
Pramāṇa	Measurement

Prameha	Polyurias
Prāṇa	One of the five types of vayu
Prāṇ ābhisara	Ideal physician
Prapāda	Arch of foot
Prapāka	First stage of digestive process
Prasāda	Essence
Prasahā	Animals grasping food
Praśna	Topic/question
Prasṛta	A unit of measurement
Prastara sveda	Bed fomentation
Prastha	A unit of measurement
Pratamaka	A type of ḍvāsa
Praticchāya	Reflected image
Pratijñā	Proposition
Pratināha	Blockage of nasal passage
Pratisāraṇa	Local application of medication
Pratiṛṣa	Base
Pratiḍyāya	Common cold
Prativiṣā	Antidote
Pratuda	Animals eating while pecking
Pravāḷa	Coral
Prāvṛṭ	Early rains
Pravṛtti	Activity

Pravṛttyuparama	Stoppage of activities
Prayatna	Effort
Preta	A mental personality type
Pṛṣṭadhra	A mythical king who offered cows in ritual sacrifice and caused
Pṛṣṭagatānyasthi	diarrhea
Pṛṣṭi	Spine
Pṛthaktva	Ribs
Pṛthvi	Individuality
Pudgalā	Earth
Pulastya	Ego
Pumsavana	Name of a sage
Puṇḍarīka kuṣṭha	A treatment for begetting male progeny
Pḍpalikā	Type of kuṣṭha
Purīṣadharā	Medicated dietary preparation
Purīṣaja kṛmī	Pelvic colon Worm grown in feces
Puruṛa	Individual
Puiuṛāartha	Four principal objects of human life
Puṛya	One of the stars
Putraghnī	A female genital disorder
Pūyarakta	A stage of cold
Rāga	A type of vine; desire
Rāja māṛa	Red kidney beans
Rajas	One of the three mental qualities

Rājatamākṣika	Silver based mineral
Rājayakṣ;mā	Pulmanary tuberculosis
Rājimān	Striped snake
Rākṣasa	A mental personality type
Rakta meha	A type of prameha
Rakta pitta	Bleeding disorders
Raktamokṣaṇa	Blood letting
Raktasarṣapa	A unit of measurement
Raktātisāra	Diarrhea with blood in stool
Rasa	Taste
Rasāla	Raita-like dietary preparation
Rasāñjana	Mercurial collyrium
Rasatantra	Chemistry
Rasavāhinī, Rasāyanī	Channels carrying chyle or nutrient fluids
Rasāyana	Rejuvenation
Rāśi	Quantity
Roga	Disease
Rohita matsya	A variety of fish
Romāntikā	Measles; eruptions all over the body
Ṛṣyajiḥvā	A type of kuṣṭha
Ṛṣyajiḥva kustha	A type of kuṣṭha
Ṛtucaryā	Seasonal regimen

Rudhira	Blood
Rudra	Name of Śiva
Rūkṣa	Dry
Rūkṣana	Roughening
Rūpa	Vision
Śabda	Sound
Ṣāḍava	An appetising dietary preparation
Sādhāraīa mṛga	Commonly found animals
Sadvṛtti	Virtuous conduct
Sahya	Sahya mountains
Saindhava	A variety of salt
Śāka	Vegetables
Śākhā	Branch
Śākuna	A mental personality type
Śālākya	Head and neck disorders
Śālākya tantra	Branch of āyurveda dealing with Diseases of ear, nose, throat, eye, *etc*.
Śali	Rice
Ś ālūka	Swelling inside the throat
Salyāpahartṛka	Surgical management
Samāna	A type of vāyu
Śamana	Pacification of doṣas
Sāmānya	Generality
Sāmā śāstri	Scholar who discovered Kauṭilya's Arthasastra

Samavāya	Inherence
Śambara	Sambhar deer
Samhanana	Firmness
Samhitā	Systematically arranged collection of texts
Samīdhānya	Pulse
Samjñāsthāpana	Resuscitation
Samkalpa	Mental resolve, wish
Samkhaka	Temporal headache
Sanyāsa	Coma
Samprāpti	Full manifestation of disease
Samsarga	Combination of two
Samskāra	Processing of drugs, diet
Sāmudra	A variety of salt
Samudraphena	A mineral derived from the ocean
Śamvṛtāsamvṛta	Body channels
Sāmya	Equilibrium
Samyoga	Conjunction
Ś ā ṇa	A unit of measurement
Śanairmeha	A type of prameha
Sandhi	Joints
ṣanḍhi	A female genital disorder
Sāndra	Solid
Sāndra meha	A type of prameha

Sāndraprasāda meha	A type of prameha
Sankara sveda	Fomentation by bolus of grains
Śankha	Conch
Śankhaka	Cavernous sinus thrombosis-like condition
Sānkhya	One of the six Indian systems of philosophy
Sankhyā	Number
Sānkhya sūtra	Authoritative text of Sānkhya attributed to Kapila
Sannikarṣa	Connection by proximity
Sannipāta	Abdominal swelling caused by all three doṣas
Sannipātodara	Udara due to all three doṣas
Santamaka	A type of dyspnea
Santata	Remittent (fever)
Ś ānti	Peace
Śapharī	A variety of fish
Sāra	Essence
Sara	Mobile
Sārabha	Young elephant
Sāranga	Spotted deer
Sarasvatī	Goddess of learning
Śarat	Autumn
Ś arāvikā	A type of abscess
Ś ārikā	A type of bird
Śarīra	Body

Śarīracchidra	Death
Śarīrasthāna	A section of Caraka Samhitā
Śarīratatvam	Body essences
Śarkarā	Sugar candy
Sārpa	A mental personality type
Sarpirguḍa	Bolus made with ghee
Sarpirmodaka	Ball made with ghee
Sarṣapa	A plant; a unit of measurement
Sarṣapī	A type of abscess
Sarvāngaroga	Disease affecting all organs
Śaṣkuli	Bread cooked in ghee
Sāsṛja	A female genital disorder
Sā ṣ ṭikā	A variety of rice
Ś āstra	Authoritative text, any branch of knowledge
Śatāru	A type of kuṣ ṭha
Satataka	Fever remitting twice in 24 hours
Sātmya	Adaptation
Sattva	The quality of goodness - among three mental qualities
Saumya	Having the pleasing properties of Soma
Sauvarcalā	A type of salt
Sauvīraka	People living in Sauvīra in western India
Śepha	Penis
Siddhi sthāna	A section of Caraka Samhitā

Siddhma kuṣ ṭha	A type of kuṣṭha
Sikatā meha	A type of prameha
Śilājatu	Bitumen
Śiṇḍ ākī	A fermented drink
Sindhu	A region in western India
Śira	Head
Sirā	Veins
Śirakapāla	Skull bones
Śirākuñ canastambhana	Spasm and paralysis of blood vessel
Ś īrṣa virecana	Head evacuation
Śiśira	Late winter
Ś īta	Cold
Sitā meha	A type of prameha
Śivā	Third deity in the sacred Hindu trinity
Skandha	Shoulder
Ślakṣ ṇa	Smooth
Śleṣmaja kṛmi	Worms that grow in mucus
Śleṣmala	Kapha-dominant constitution
Ślīpada	Swelling in the lower extremities due to vitiation of māmsa, rakta and Kapha
Smṛti	Memory
Snāva	Tendon
Snāyu	Ligaments
Sneha basti	Lubricant enema

Snehana	Lubricant therapy
Snigdha	Unctuous
Śodhana	Evacuative measures
Śoṇita	Menstrual secretion
Śoṇitaja	Worms that grow in blood
Śoṇitam	Menstrual secretion
Śoṣa	Pulmonary tuberculosis
Sparśa	Touch
Sphica	Buttocks
Sṛkkaanya	Angles of mouth
Śroṇ ī	Pelvic cavity, waist
Śroṇīphalaka	Hip bones
Srotas	Body channels
Stambhana	Checking
Stana	Breast
Sthalakārbuda	Tubercles of ribs
Sthāna	Section
Sthānika	Government officers
Sthāpana	Establishment of a proposition
Sthira	Fixed
Sthūla	Gross
Sūcīmukhi	A female genital disorder
Śuka	Parrot

Ś ūkadhānya	Awned cereals
Sukha	Happiness
Sukhavatīvarti	A medicinal preparation
Sukhāyu	Happy life
Śukla meha	A type of prameha
Śukra	Semen
Śukra meha	A type of prameha
Sūkṣma	Subtle
Sūkta	True statements on spiritual and scientific theories in metrical form
Sukta	A form of vinegar
Śuṇ ḍikā	Uvula
Surā	Alcoholic drink
Ś ūrpa	A unit of measurement
Sūryāvarta	Sinus headache
Śuṣkayoni	A female genital disorder
Suṣruta	Master surgeon and author of a Samhitā
Sūtra	A thread which ties together different subjects in a text
Sūtra sthāna	Section in Caraka Samhitā
Svabhāva	Natural state
Svarṇa mākṣika	Copper pyrite
Svarṇagairika	Yellow ochre
Śvāsa	Shortness of breath
Svastimantra	Auspicious invocation

Svedana	Fomentation
Śvitra	Leucoderma
Śyāmāka	Rice variety
Śyāvāruṇ ābhāsa	Blackish red colouration
Taila pancaka	A medicinal formulation of oils
Takman	Fever in Atharva Veda
Takṣaśila	Ancient university town (Taxila in Pakistan)
Tāluka	Palate
Tāluvidradhi	Painful swelling above or below the tongue
Tamaka śvāsa	A type of dyspnea
Tamas	The third among mental qualities
Tandrā	Drowsiness
Taṇḍula	A unit of measurement
Tā ṇḍya brahmaṇa	A braḥmana attached to Atharva Veda
Tantra	Treatise
Tālu	Palate
Tīkṣṇa	Quick
Tikta	Bitter
Tretāyuga	The second yuga or age of the world
Tridoṣa	Three doṣas
Trikaṭu	Three plants
Tritīyaka	Fever once in three days
Tṛaputrikā	Fetal anomaly – body has male features but no male sex

Tṛ ṣṇā	Thirst
Tula	A unit of measurement
Tuṣodaka	Fermented drink with medicinal properties
Tuttha	Copper sulphate
Tvak	Skin; a plant
Ubhayedyuḥ	Fever once in two days
Ucchiṭiṅga	A type of poison
Ucchlankhā	Metacarpal bone's
Udaka meha	A type of prameha
Udakadharā	Second layer of skin
Udakodara	Fluid accumulation in the abdomen
Udāna	A type of vāyu
Udara	Abdomen; abdominal disease with distension
Udarāda	A type of kṛmi
Udāvarta	A condition in which there is upward movement of vāyu
Udāvartinī	A female genital disorder
Ukha	Axillae
Unmāda	Insanity
Upadhā	Trial of integrity; withdrawal from desires
Upadhāna	Applying medication on a scalp incision
Upadrava	Complication
Upajihvikā	Tonsils
Upakuśa	Gum swelling due to rakta and pitta

Upamāna	Comparison
Upaniṣad	Sacred text attached to Braḥmanas of Vedas, explaining true knowledge on supreme Self
Upaplutā	A female genital disorder
Upaśaya	Diagnosis by the effect of food, drugs etc
Upaviṣ ṭaka	Fetus inside the womb with retarded growth due to vaginal bleeding
Upāya	Way/method
Upayoga samsthā	Dietetic rules
Upayoktā	Consumer
Upekṣa	Indifference
Ura	Breast bone
Uraḥkṣata	Chest injuries
Uras	Chest
Ūrdhva śvāsa	A type of dyspnea
Ūru	Thigh
Ūrunalaka	Thigh bone
Ūrupiṇḍikā	Thighs
Ūrustambha	A syndrome of numb and immobile thighs
Uṣṇa	Hot
Uṣṇavāta	A urinary disorder
Uṣṇīhā	Nape of neck
Utkarika	A dietary preparation
Utkartana	Incision

Utkrośa	Large bird
Uttarāyaṇa	Northward course of sun
Vāda	Debate
Vaha	A unit of measurement
Vaidya	Physician
Vaikṛta	Disorder
Vairudhya	Antagonism
Vaiṣamya	Imbalance
Vaiśeṣika	One of the six Indian systems of philosophy
Vaiśeṣika guna	Qualities according to Vaiśeṣika
Vaiśya	Third in the Indian caste hierarchy
Vajīkaraṇa	Therapy to increase virility
Vāmadeva	Name of a sage
Vamana	Emesis
Vāminī	A female genital disorder
Vanaspati	Plant that bears fruits without apparent blossoms
Vīnaspatya	A classification of plants
Vaṅghana	A mental personality type
Vaṇiṣṭhu	Groin Rectum
Variśaya	Animals living in water
Varṣa	Rainy season
Vārṣika	Related to rain; yearly
Vartakādi	Gallinaceous animals

Vāruṇa	A mental personality type
Vāruṇī	An alcoholic drink/wine
Vasā meha	A type of prameha
Vasanta	Spring
Vasiṣṭha	Name of a sage
Vāstu vidyā	Science of architeture
Vāsudeva	Name of deity
Vāta	One of the do;ṣas
Vātabasti, Vatakuṇḍalikā	Types of urinary disorders
Vātala	Vāta dominant constitution
Vātarakta	Refer to vātaśonita
Vātaśoṇita	Disorders of perturbed vāta and blood
Vātāṣṭhīla	A urinary disorder
Vātāṣṭhīla	A urinary disorder
Vātātapika	Rejuvenation by a simple method avoiding hot sun, strong wind and observing regimen
Vātodara	Abdominal distension due to vāta
Vayasthāpanīya	Stabilising age
Vāyavya	Airy
Vāyu	Air
Vedānta	One of the six Indian systems of

	philosophy
Vedita	Knower, teacher
Vega	Natural urge
Veśavāra	A dietary preparation
Vibhāga	Disjunction
Vibhu	Omnipresent
Vicāraṇa	A method of lubricant therapy
Vicarcikā	A type of kuṣṭha
Vidradhi	A type of abscess
Vidvighāta	A urinary disorder
Vidyā	Learning; science
Vikāra	Disease
Vikṛti	Perturbed state
Vikṣaya	A condition associated with alcohol intake
Vilepikā	Thick gruel
Vimānasthāna	A section of *Caraka Samhitā*
Vinatā	A type of abscess
Vindhya	Mountains between north and south India
Vipādikā	A type of kuṣṭha
Vipāka	Post-digestive taste
Vipluta	A female genital disorder

Virajā	Freedom from rajas
Vīraṇa	Refreshing drink
Virecana	Purgation
Vīrudh	A spreading creeper
Vīrya	Potency
Viṣa	Poison
Viśada	Clear
Viṣagara vairodhikapraśamana	Treatment of poisons
Viṣamajvara	Complex fever
Visarga	Generous period in a year
Visarpa	Cellulitis
Viśesa	Specificity
Viṣ ṇu	Second deity in sacred Hindu trinity; the preserver
Visphoṭa	A type of kuṣṭha
Visphoṭaka	Generalised red eruptions all over the body
Viṣūcikā	Disease marked by vomiting and purging
Viśvadēva	Group of deities, ten in number and sons of goddess Viūvā
Visvakarmā	Cosmic architect
Visvarūpa	Cosmic figure

Vraṇa	Sores
	Wound
Vrīhi	Rice variety, plant
Vṛūaṇ a	Testicles
Vyādhi	Disease
Vyāna	A type of vāyu
Vyapeta hikkā	A type of hiccup
Vyāyāmaūakti	Exertional capacity
Yakan	Liver
Yakṣmā	Tuberculosis
Yamika hikkā	A type of hiccup
Yāmya	A mental personality type
Yava	Barley; a unit of measurement
Yavāgu	A gruel preparation
Yavāna	People of Greek origin
Yavāni ṣā ḍava	A dietary preparation
Yoga	One of the six Indian systems of philosophy
Yoga vidyā	Instruction in yoga
Yogasūtra	Authoritative text on yoga by Patañjali
Yogavṛtti	Conduct according to yogic principles
Yūka	A type of kṛmi

Yukti Reason

Introduction 1

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2. Ibid, p 402.

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4. Indriya 3: 6

5. Kutumbiah P. *Ancient Indian Medicine*. Orient Longman, Madras 1962. p 49.

6. śarīra 5: 12-19

7. Kauṭilya's *Arthāśāstra*. Ed. śāmāśāstri. Mysore Printing and Publishing House, 1967. 8th ed, p 164.

8. Ibid, p 233.

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1. Gōpatha Brāhmaṇa 3: 4

2. Tāṇḍya Brāhmaṇa 16(10): 10

3. Atharva Veda 8(7): 23-24 All references to the Atharva Veda in this and subsequent chapters are to *Atharva Veda with Subodha Bhashya* (four volumes), text with Hindi translation by Pandit Sripad Damodar Satwalekar (1983) Paradi: Swadhyaya Mandal.

4. Atharva Veda 11(9): 3

5. Atharva Veda 5(22): 13

6. Atharva Veda 1(25): 3

7. Atharva Veda 10(2): 1-33

8. Atharva Veda 2(33): 1-7

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1. Śarīra 1: 87

2. Atharva Veda 1:25:4

3. Cikitsā 3: 70

4. Cikitsā 3: 84-88

5. Cikitsā 3: 99

6. Cikitsā 6: 12

7. Cikitsā 3: 200-203

8. Indriya 11: 14

9. Cikitsā 12: 90-93

10. Sūtra 5: 79

11. Cikitsā 11: 12-13

12. Cikitsā 12: 79

13. Cikitsā 11: 81

14. Cikitsā 8: 20-23

15. Cikitsā 12: 84

16. Cikitsā 21: 30

17. Cikitsā 21: 31-34

18. Sūtra 17: 31-40

19. Cikitsā 26: 70-73

20. Sūtra 1:22: 20

21. Sūtra 1: 27: 212

22. Cikitsā 6.5: 94-95

23. Cikitsā 6.5: 154-160

24. Cikitsā 6.16: 71

25. Cikitsā 8.2: 16

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1. Sūtra 20: 11-12

2. Sūtra 20: 14-15

3. Sūtra 20: 17-18

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1. Ved DK. 2001. *Amruth* 3: 5.

2. Budavari S 1989. *The Merck Index*. Merck and Co.

[3.] Sukh Dev 1999. Ancient-modern concordance in ayurvedic plants.*Environ. Health. Persp*. 107: 783-89.

[4.] Rama Das VS. 2001. *Personal communication*.

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[*] Numbers are approximate as items are sometimes difficult to classify.

Chapter 1

1. Sūtra 1: 41

2. Sūtra 30: 24

3. Sūtra 1: 46-47

4. Sūtra 30: 26-29

5. Sūtra 30: 16

6. Sūtra 30: 72-80

7. Sūtra 1: 44-52

8. Sūtra 1: 53

9. Śarīra 6: 8-17

10. Sūtra 12: 8-12

11. Vimāna 6: 5-10

12. Sūtra 1: 58-62

13. Sūtra 1: 64-66

14. Sūtra 1: 68-119

15. Sūtra 1: 120-125

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2. Sūtra 2: 17-33
3. Sūtra 3: 3-29
4. Sūtra 4: 4
5. Sūtra 4: 8-18
6. Sūtra 4: 21-22

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2. Sūtra 8:17
3. Sūtra 5:71-75
4. Sūtra 5:78-93
5. Sūtra 5:20-25
6. Sūtra 8:20
7. Sūtra 5:4-13
8. Sūtra 8:22
9. Sūtra 8:18-19
10. Sūtra 8:25
11. Sūtra 8:34

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6. Sūtra 6: 41-48

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2. Sūtra 7: 26-29
3. Sūtra 7: 31-38
4. Sūtra 7: 39-59

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2. Sūtra 9: 19
3. Vimāna 7: 3-7
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5. Sūtra 10: 4
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7. Sūtra 10: 9-10
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1. Sūtra 11:3

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5. Sūtra 11:11

6. Sūtra 11:13

7. Sūtra 11:14-15

8. Sūtra 11:18-19

9. Vimāna 4: 6

10. Sūtra 11:20

11. Vimāna 4:3-8

12. Sūtra 11:21-25

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15. Sūtra 11:32

16. Sūtra 11:34-54

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15. Sūtra 19: 6-7
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17. Sūtra 20: 3
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1. Sūtra 22: 9-17
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3. Sūtra 22: 38
4. Sūtra 22: 34-37
5. Sūtra 22: 32-33
6. Sūtra 22: 41-42

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1. Sūtra 21: 4

2. Sūtra 21: 18-19

3. Sūtra 21: 21-28

4. Sūtra 23: 3-34

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7. Sūtra 26:61-63

8. Sūtra 26:67-63

9. Sūtra 26:81

10. Sūtra 26:84

11. Sūtra 26:86-101

* Bhūtas are subtle and inaccessible to the senses. From the five bhūtas, mahābhūtās evolve through a quinquennial process (pañcīkaraṇa) which recreates each mahābhūta with a dominant bhūta and lesser contributions from the other bhūtas. What one sees as earth, water etc., are the gross manifestations of pancamahābhūtās.

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2. Sūtra 27: 23-34

3. Sūtra 27: 35-60

4. Sūtra 27: 61-62

5. Sūtra 27: 88-124

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9. Sūtra 27: 196-216

10. Sūtra 27: 217-236

11. Sūtra 27:237-249

12. Sūtra 27 : 250-285

13. Sūtra 27: 286-308

14. Sūtra 27: 319-328

15. Sūtra 27: 332-341

i. Cereals ideal for use when a year old. The old is rough, the new heavy The crop which matures is lighter in quality ii. Pulses are ideal for use when a year old. The old is rough, the new is heavy. When dehusked and fried, pulses are digested readily.

iii. Meat of animals which died naturally, killed by poisons or by snakes, tigers *etc.* should be discarded; as also that of too fat, too old, too young and emaciated. Meat soup is a useful tonic for those with phthisis, emaciation and other serious ailments.

iv. Vegetables contaminated by insects, damaged by wind or sun, old and unseasonal, uncooked in fat and not cleansed should be discarded.

v. Old, rotten and unripe fruits, those damaged by insects, animals, snow and sun, or grown in unnatural places and wrong seasons are unfit to eat.

vi. Individual properties are superseded by the steps in cooking and processing.

vii. In general, mildly cooked are heavy; if well cooked light. Heaviness and lightness of diet should be determined on the basis of the main ingredient, cooking procedure and qualities of different ingredients. Preparation similar to raita.

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1. Sūtra 28: 3-5

2. Sūtra 28: 6-7

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1. Vimāna 3: 6-7
2. Vimāna 3: 4
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1. Vimāna 2: 15-18

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1. Vimāna 5: 3-25

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9. Vimāna 8: 134

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3. śarīra 1:18-23

4. śarīra 1:75-76

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* Mahāgāndha hasti has manifold applications. Combined with a judiciously chosen diet, it overcomes various eye diseases, irregular fever, skin diseases, counteracts poisons of insects, snakes and roots and tubers of plants; smeared on one's body, one could hold snakes and take its poison with no danger. External application on the anus and vagina relieves severe constipation and difficult labour.
The mahāgandha hasti could be applied over musical instruments like drums which should be sounded, and on banners which should be shown to counter snake poison. It prevents seizures in children, wards off evil effects of planets, spells and the king's displeasure.
While grinding the formulation, one should chant a victory hymn addressed to Viṣṇu, Kṛṣṇa and Rudra. The hymn will potentiate the formulation and ensure its efficacy because the defeat of Kṛṣṇa can no more be visualised than one's own mother's marriage or the draining of the ocean.

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17. Kalpa 10: 3-20

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* A dish of pulse and rice boiled together * For liquids and fresh samples, the measures are doubled. When a weight/volume is not mentioned in a given formulation, equal weight/volume is indicated.

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28. Siddhi 12:3-9

29. Siddhi 12:10-15

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